# STIC Search Report
## Biotech-Chem Library

STIC Database Tracking Number: 127875

**TO: Hector Reyes**
**Location: REM-5C18**
**Art Unit: 1625**
**Wednesday, July 21, 2004**

**Case Serial Number: 10/075442**

**From: Deirdre Arnold**
**Location: Biotech-Chem Library**
**REM 1A64**
**Phone: 571-272-2532**

**Deirdre.Arnold@uspto.gov**

## Search Notes

Thank you for using STIC services.

# STIC SEARCH RESUL
# FEEDBACK FORM

USPTO

## Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contac*

**Mary Hale, Information Branch Supervisor**
**571-272-2507 Remsen E01 D86**

## Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technolog

  *Types of relevant prior art found:*
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability)
  - ☐ Results were not useful in determining patentability or understanding the inventi

**Comments:**

Drop off or send completed forms to STIC/Biotech-Chem Library Remsen Bldg

sira
Search and Information Resources Administration

FILE 'HCAPLUS' ENTERED AT 09:06:29 ON 21 JUL 2004
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FILE COVERS 1907 - 21 Jul 2004 VOL 141 ISS 4
FILE LAST UPDATED: 20 Jul 2004 (20040720/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> act rey442hcaapp/a
L24 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2002-075442/AP,PRN

=> d que l24
L24 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2002-075442/AP,PRN

=> d l24 iall

L24 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:359750 HCAPLUS
DOCUMENT NUMBER: 134:348284
ENTRY DATE: Entered STN: 18 May 2001
TITLE: Phenyl compounds to treat diabetes and associated conditions
INVENTOR(S): Neogi, Partha; Nag, Bishwajit; Lakner, Frederick J.; Dey, Debendranath; Medicherla, Satyanarayana
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: A61K
CLASSIFICATION: 1-10 (Pharmacology)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001034094 | A2 | 20010517 | WO 2000-US30927 | 20001108 |
| WO 2001034094 | C2 | 20020725 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,

LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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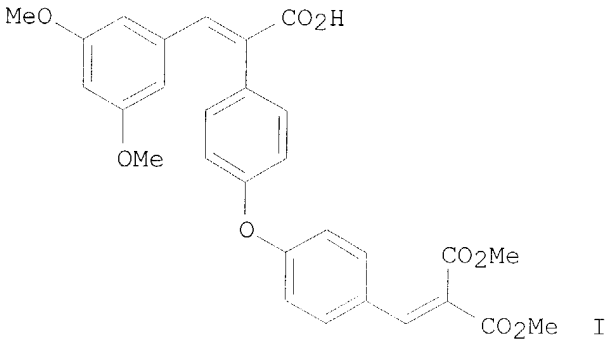
| US 6525093 | B1 | 20030225 | US 1999-436047 | | 19991108 |
| AU 2001017607 | A5 | 20010606 | AU 2001-17607 | | 20001108 |
| EP 1235785 | A2 | 20020904 | EP 2000-980331 | | 20001108 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | | |
| JP 2004503464 | T2 | 20040205 | JP 2001-536099 | | 20001108 |
| US 2002107285 | A1 | 20020808 | US 2002-75442 | | 20020215 <-- |
| PRIORITY APPLN. INFO.: | | | US 1999-436047 | A | 19991108 |
| | | | WO 2000-US30927 | W | 20001108 |

OTHER SOURCE(S): MARPAT 134:348284
GRAPHIC IMAGE:




I

ABSTRACT:
Ph compds. (Markush included) are provided that lower blood glucose concns., lower serum triglyceride concns., lower systolic blood pressure, and increase glucose uptake by adipose tissue, but do not affect the expression of PPAR-γ by adipose tissue. Compds. of the invention include e.g. I.

SUPPL. TERM: phenyl deriv antidiabetic hypotriglyceridemic antihypertensive
INDEX TERM: Antidiabetic agents
Antihypertensives
Drug delivery systems
Hypolipemic agents
(Ph compds. to treat diabetes and associated conditions)
INDEX TERM: Glycerides, biological studies
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(blood; Ph compds. to treat diabetes and associated conditions)
INDEX TERM: Peroxisome proliferator-activated receptors
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(γ; Ph compds. to treat diabetes and associated conditions)
INDEX TERM: 339332-56-8 339332-57-9
ROLE: BAC (Biological activity or effector, except adverse);

BSU (Biological study, unclassified); THU (Therapeutic use);
BIOL (Biological study); USES (Uses)
(Ph compds. to treat diabetes and associated conditions)

INDEX TERM: 50-99-7, D-Glucose, biological studies
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(Ph compds. to treat diabetes and associated conditions)

=> FIL STNGUIDE

=> fil zcaplus

FILE 'ZCAPLUS' ENTERED AT 08:36:01 ON 21 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 21 Jul 2004 VOL 141 ISS 4
FILE LAST UPDATED: 20 Jul 2004 (20040720/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 08:36:04 ON 21 JUL 2004
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FILE COVERS 1907 - 21 Jul 2004 VOL 141 ISS 4
FILE LAST UPDATED: 20 Jul 2004 (20040720/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil biosis

FILE 'BIOSIS' ENTERED AT 08:36:06 ON 21 JUL 2004


FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 15 July 2004 (20040715/ED)

FILE RELOADED: 19 October 2003.

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 08:36:10 ON 21 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 16, 2004 (20040716/UP).

=> d que l10
L1 ( 114) SEA FILE=HCAPLUS ABB=ON PLU=ON ("NEOGI P"/AU OR "NEOGI P K B"/AU OR "NEOGI P S"/AU) OR ("NEOGI PARTHA"/AU OR "NEOGI PARTHASAKHA"/AU)
L2 ( 287) SEA FILE=HCAPLUS ABB=ON PLU=ON NAG/AU OR ("NAG B"/AU OR "NAG B B"/AU OR "NAG B B S P"/AU OR "NAG B D"/AU OR "NAG B D CHOWDHURI"/AU OR "NAG B L"/AU OR "NAG B N"/AU OR "NAG B R"/AU) OR ("NAG BISHWAGIT"/AU OR "NAG BISHWAJIT"/AU)
L3 ( 17) SEA FILE=HCAPLUS ABB=ON PLU=ON ("LAKNER F J"/AU OR "LAKNER FREDERICK J"/AU OR "LAKNER FREDERICK JAMES"/AU OR "LAKNER FREDRICK J"/AU)
L4 ( 21) SEA FILE=HCAPLUS ABB=ON PLU=ON ("DEV D"/AU OR "DEV D K"/AU OR "DEV D S"/AU OR "DEV D V"/AU) OR "DEV DEBAPRASAD"/AU
L5 ( 24) SEA FILE=HCAPLUS ABB=ON PLU=ON "MEDICHERIA SATYANARAYANA"/AU OR ("MEDICHERLA SATYA"/AU OR "MEDICHERLA SATYANANYANA"/AU OR "MEDICHERLA SATYANARAYANA"/AU)
L6 ( 433) SEA FILE=HCAPLUS ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5)
L7 ( 419) SEA FILE=HCAPLUS ABB=ON PLU=ON L6 AND (AY<2003 OR PY<2003 OR PRY<2003)
L8 ( 22) SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND ?DIABET?
L9 ( 11) SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND ?GLYCERID?
L10 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 AND L9

=> d que l22
L11 ( 46) SEA FILE=BIOSIS ABB=ON PLU=ON ("NEOGI P"/AU OR "NEOGI P K B"/AU OR "NEOGI PARTHA"/AU)
L12 ( 131) SEA FILE=BIOSIS ABB=ON PLU=ON ("NAG B"/AU OR "NAG B L"/AU OR "NAG B N"/AU) OR ("NAG BHISHWAJIT"/AU OR "NAG BISHWAJIT"/AU OR "NAG BISWAJIT"/AU)
L13 ( 8) SEA FILE=BIOSIS ABB=ON PLU=ON ("LAKNER F J"/AU OR "LAKNER FRDERICK J"/AU OR "LAKNER FREDERICK J"/AU OR "LAKNER FREDRICK J"/AU)
L14 ( 44) SEA FILE=BIOSIS ABB=ON PLU=ON ("DEV D"/AU OR "DEV D G"/AU OR "DEV D K"/AU OR "DEV D S"/AU OR "DEV D V"/AU)
L15 ( 33) SEA FILE=BIOSIS ABB=ON PLU=ON "MEDICHERIA SATYA"/AU OR ("MEDICHERLA S"/AU OR "MEDICHERLA SATYA"/AU OR "MEDICHERLA SATYANANYANA"/AU OR "MEDICHERLA SATYANARAYANA"/AU)
L16 ( 220) SEA FILE=BIOSIS ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15)
L17 ( 11) SEA FILE=BIOSIS ABB=ON PLU=ON L16 AND ?GLYCERID?
L18 ( 148) SEA FILE=BIOSIS ABB=ON PLU=ON L16 AND (CONG? OR CONF? OR SYMP? OR MEET? OR MTG OR FORUM OR FORA OR ASSEM? OR WORK? OR WKSHP? OR COLLOQ? OR SESS? OR SEM? OR TRANS? OR PROC? OR ABS? OR REV?)/DT,SO,ST,CT,CW,IT,MT,BI
L19 ( 84) SEA FILE=BIOSIS ABB=ON PLU=ON L16 AND 00520/CC
L20 ( 85) SEA FILE=BIOSIS ABB=ON PLU=ON (L18 OR L19) NOT ARTICLE/DT

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L21 (         7)SEA FILE=BIOSIS ABB=ON  PLU=ON  L20 AND ?GLYCER?
L22          11 SEA FILE=BIOSIS ABB=ON  PLU=ON  L17 OR L21


=> dup rem l10 l22

FILE 'HCAPLUS' ENTERED AT 08:36:34 ON 21 JUL 2004
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FILE 'BIOSIS' ENTERED AT 08:36:34 ON 21 JUL 2004
COPYRIGHT (C) 2004 BIOLOGICAL ABSTRACTS INC.(R)
PROCESSING COMPLETED FOR L10
PROCESSING COMPLETED FOR L22
L23          20 DUP REM L10 L22 (2 DUPLICATES REMOVED)
                ANSWERS '1-11' FROM FILE HCAPLUS
                ANSWERS '12-20' FROM FILE BIOSIS

=> d ibib abs

L23  ANSWER 1 OF 20  HCAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 1
ACCESSION NUMBER:        2003:747894  HCAPLUS
DOCUMENT NUMBER:         139:255379
TITLE:                   Diphenylethylene compounds for the treatment of
                         diabetes
INVENTOR(S):             Nag, Bishwajit; Medicerla,
                         Satyanarayana; Dey, Debendranath
PATENT ASSIGNEE(S):      Calyx Therapeutics, Inc., USA
SOURCE:                  U.S., 14 pp., Cont.-in-part of U.S. 6,245,814.
                         CODEN: USXXAM
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  9
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ----------------  ----  --------      ---------------  --------
     US 6624197         B1   20030923      US 2000-642618   20000817 <--
     US 6245814         B1   20010612      US 1998-74925    19980508 <--
     WO 2001056382      A1   20010809      WO 2001-US3797   20010205 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 2002002200      A1   20020103      US 2001-777551   20010205 <--
     EP 1251738         A1   20021030      EP 2001-905454   20010205 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     JP 2003521500      T2   20030715      JP 2001-556090   20010205 <--
PRIORITY APPLN. INFO.:                  US 1998-74925    A2 19980508 <--
                                        US 2000-180340P  P  20000204 <--
                                        US 2000-642618   A  20000817 <--
                                        WO 2001-US3797   W  20010205 <--
OTHER SOURCE(S):         MARPAT 139:255379
```

AB Diphenylethylene and styrene compds. are provided which are administered orally to decrease blood glucose levels in rats. The glucose tolerance in insulin-resistant rats is also shown, as well as lowering of **triglyceride** levels in serum insulin-resistant, hyperinsulinemic and **hypertriglyceridemic** rats. The compds. are orally effective **antidiabetic** agents that potentially may reduce abnormality of glucose and lipid metabolism in **diabetes.** Preparation of 2-(4-hydroxyphenyl)-3-(3,5-dimethoxyphenyl)propenoic acid isomers and sodium salts is described.

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs 2-
YOU HAVE REQUESTED DATA FROM 19 ANSWERS - CONTINUE? Y/(N):y

L23 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2001:627250 HCAPLUS
DOCUMENT NUMBER: 135:162510
TITLE: Diphenylethylene and styrene compounds for the treatment of **diabetes**
INVENTOR(S): **Nag, Bishwajit**; **Medicherla, Satyanarayana**; Dey, Debendranath
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 6245814 | B1 | 20010612 | US 1998-74925 | 19980508 <-- |
| WO 9958127 | A1 | 19991118 | WO 1999-US9982 | 19990507 <-- |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 9939741 | A1 | 19991129 | AU 1999-39741 | 19990507 <-- |
| AU 751235 | B2 | 20020808 | | |
| EP 1007039 | A1 | 20000614 | EP 1999-922836 | 19990507 <-- |
| EP 1007039 | B1 | 20040303 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002514598 | T2 | 20020521 | JP 2000-547978 | 19990507 <-- |
| AT 260906 | E | 20040315 | AT 1999-922836 | 19990507 <-- |
| NZ 511065 | A | 20030829 | NZ 1999-511065 | 19990518 <-- |
| US 6624197 | B1 | 20030923 | US 2000-642618 | 20000817 <-- |
| US 2002025975 | A1 | 20020228 | US 2001-785554 | 20010220 <-- |
| US 2002032225 | A1 | 20020314 | US 2001-843167 | 20010427 <-- |

PRIORITY APPLN. INFO.:
US 1998-74925 A 19980508 <--
US 1999-287237 A 19990406 <--
WO 1999-US9982 W 19990507 <--
US 2000-591105 A2 20000609 <--
US 2001-785554 A2 20010220 <--

OTHER SOURCE(S): MARPAT 135:162510

AB Novel diphenylethylene and styrenes are provided which are administered orally to decrease blood glucose levels in rats. The glucose tolerance in insulin resistant rats is also shown, as well as lowering of **triglyceride** levels in serum insulin resistant, hyperinsulinemic and hypertriglycedemic rats. The compds. are orally effective anti-**diabetic** agents that potentially may reduce abnormality of glucose and lipid metabolism in **diabetes.**

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:757334 HCAPLUS

DOCUMENT NUMBER: 139:276885

TITLE: Preparation of novel heterocyclic analogs of diphenylethylene compounds as **antidiabetics**

INVENTOR(S): **Neogi, Partha**; Dey, Debendranath; **Medicherla, Satyanarayana**; **Nag, Bishwajit**; Lee, Arthur

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 66 pp., Cont.-in-part of U.S. Ser. No. 843,167.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 9

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
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| US 2003181494 | A1 | 20030925 | US 2002-265902 | 20021008 | <-- |
| US 2002025975 | A1 | 20020228 | US 2001-785554 | 20010220 | <-- |
| US 2002032225 | A1 | 20020314 | US 2001-843167 | 20010427 | <-- |
| WO 2004033438 | A1 | 20040422 | WO 2003-US31803 | 20031008 | <-- |

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

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| US 1999-287237 | A2 19990406 | <-- |
| US 2000-591105 | B2 20000609 | <-- |
| US 2001-785554 | A2 20010220 | <-- |
| US 2001-843167 | A2 20010427 | <-- |
| US 1998-74925 | A2 19980508 | <-- |
| US 2002-265902 | A2 20021008 | <-- |

OTHER SOURCE(S): MARPAT 139:276885

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; Z = II-IV; n, m, q and r = 0-4 (n+m ≤ 4 and

q+r ≤ 4); p, s = 0-5 (p+s ≤ 5); R, R2 = H, alkyl, alkenyl, etc.; R1 = H, alkyl, alkenyl, etc.; A, A1, A2 = H, acylamino, acyloxy, alkanoyl, etc.; B, B1, B2 = H, acylamino, acyloxy, alkanoyl, etc.; or A and B together, or A1 and B1 together, or A2 and B2 together, may be joined to form a methylenedioxy or ethylenedioxy; X, X1 = (un)substituted NH, O, S] which are effective in lowering blood glucose level, serum insulin, **triglyceride** and free fatty acid levels in animal models of Type II **diabetes**, were prepared E.g., a multi-step synthesis of V, starting from 3,5-dimethoxybenzaldehyde and 4-hydroxyphenylacetic acid, was given. The compound V showed strong glucose lowering activity even though it is a weak PPAR-γ agonist (data given). The compds. I are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis. Pharmaceutical composition comprising the compound I was claimed.

L23 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:185699 HCAPLUS
DOCUMENT NUMBER: 136:247571
TITLE: Preparation of novel heterocyclic analogs of diphenylethylene compounds as inhibitors of cytokines or cyclooxygenase
INVENTOR(S): **Nag, Bishwajit**; Dey, Debendranath; **Medicherla, Satyanarayana**; **Neogi, Partha**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. Ser. No. 785,554.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2002032225 | A1 | 20020314 | US 2001-843167 | 20010427 <-- |
| US 6245814 | B1 | 20010612 | US 1998-74925 | 19980508 <-- |
| US 2002025975 | A1 | 20020228 | US 2001-785554 | 20010220 <-- |
| WO 2001095859 | A2 | 20011220 | WO 2001-US17950 | 20010605 <-- |
| WO 2001095859 | A3 | 20030828 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2001066670 | A5 | 20011224 | AU 2001-66670 | 20010605 <-- |
| EP 1360178 | A2 | 20031112 | EP 2001-944241 | 20010605 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR | | | | |
| US 2003181494 | A1 | 20030925 | US 2002-265902 | 20021008 <-- |

PRIORITY APPLN. INFO.:
US 1998-74925 A2 19980508 <--
US 1999-287237 A2 19990406 <--
US 2000-591105 A2 20000609 <--
US 2001-785554 A2 20010220 <--

US 2001-843167 A2 20010427 <--
WO 2001-US17950 W 20010605 <--

OTHER SOURCE(S): MARPAT 136:247571

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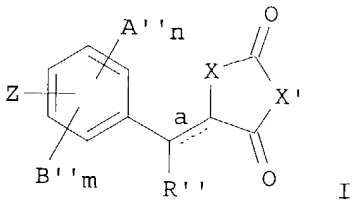

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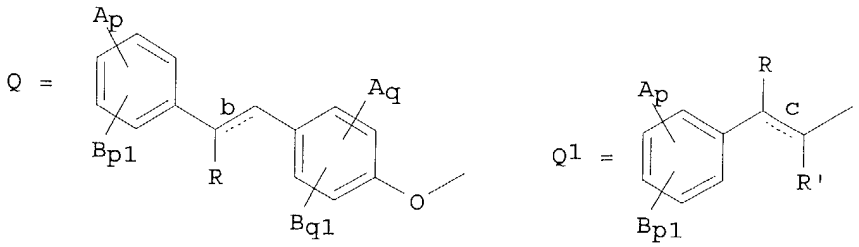

AB Novel diphenylethylene compds. and derivs. thereof containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, **triglyceride** and free fatty acid levels in animal models of Type II **diabetes.** The above compds. and their derivs. are resented by formula [I; Z = Q, Q1, H, A", B"; wherein n, m, q, q1 = integers from zero to 4 provided that n+m≤4 and q+q1≤4; p, p1 = integers from zero to 5 provided that p+p1≤5; a, b and c are double bonds which may be present or absent; when present; the double bonds may be in the E or Z configuration and, when absent, the resulting stereocenters may have the R- or S- configuration; R, R', R" = H, C1-20 linear or branched alkyl, C2-20 linear or branched alkenyl, CO2Z' (wherein Z' = H, Na, K, or other pharmaceutically acceptable counterion such as Ca, Mg, ammonium, tromethamine, and the like), CO2R''', NH2, NHR''', N(R''')2, OH, OR''', halo, substituted C1-20 linear or branched alkyl or substituted C2-20 linear or branched alkenyl (wherein R''' is C1-20 linear or branched alkyl or linear or branched alkenyl); A, A', A'' = H, C1-20 acylamino, C1-20 acyloxy, C1-20 alkanoyl, C1-20 alkoxycarbonyl, C1-20 alkoxy, C1-20 alkylamino, C1-20 alkylcarboxylamino, CO2H, cyano, halo, HO; B, B', B'' = H, C1-20 acylamino, C1-20 acyloxy, C1-20 alkanoyl, C1-20 alkenoyl, C1-20 alkoxycarbonyl, C1-20 alkoxy, C1-20 alkylamino, C1-20 alkylcarboxylamino, aroyl, aralkanoyl, CO2H, cyano, halo, HO; or A and B together, or A' and B' together, or A'' and B'' together, may be joined to form a methylenedioxy or ethylenedioxy group; and X, X' are independently -NH, -NR''', O or S]. In contrast to previously reported thiazolidinedione compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity. They inhibit the activity of TNF-alpha, interleukin IL-1 or IL-6 or cyclooxygenase-2 (COX-2). The compds. are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis. Thus, To a mixture of 3,5-dimethoxybenzaldehyde (500 g) and

p-hydroxyphenylacetic acid (457 g) was added acetic anhydride (1 L) and triethylamine (420 mL) and the nonhomogeneous mixture on heating became homogeneous at 70° and stirred at 130-140° for 6 h to give 47% 3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid (II) (428 g). II (427.5 g) was suspended in 3 L methanol, treated with 100 mL concentrated H2SO4, and heated at reflux for 20 h under Ar to give 97% 3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid Me ester (III). III (433 g) was dissolved in 1.6 L DMF, treated with 60.4 g NaH (50% in oil) and the with 185 mL p-fluorobenzaldehyde, and heated at 180° for 18 h to give 77% 3-(3,5-dimethoxyphenyl)-2-[4-(4-formylphenoxy)phenyl]acrylic acid Me ester which (352 g), 2,4-thiazolidinedione 98.6, benzoic acid 134, and piperidine 107.4 g were heated in 2.5 L toluene at reflux with continuous removal of H2O through Dean-Stark apparatus to give 86% 3-(3,5-dimethoxyphenyl)-2-[4-[4-(2,4-dioxothiazolidin-5-ylidenemethyl)phenoxy]phenyl]acrylic acid Me ester (IV). IV (30 g) was hydrogenated over 15 g 10% Pd-C in 900 mL dioxane in a Parr apparatus at 60 Psi for 24 h, followed by adding 15 g 10% Pd-C and continuing the hydrogenation for another 24 h to give 86% 3-(3,5-dimethoxyphenyl)-2-[4-[4-(2,4-dioxothiazolidin-5-ylmethyl)phenoxy]phenyl]acrylic acid Me ester (V). When V was orally administered to ob/ob mice with a single oral dose (50 mg/kg body weight), there was a 62 % drop in blood glucose level and, similar to db/db mice, there was no significant increase in body weight between the control and the treatment groups. This was in contrast to treatment of **diabetic** animals by thiazolidinedione type compds. which are known to be associated with increase in body weight

L23 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:158391 HCAPLUS
DOCUMENT NUMBER: 136:216745
TITLE: Preparation and activity of diphenylethylene thiazolidinediones and analogs as **antidiabetics**, antiinflammatories, or immunomodulators
INVENTOR(S): **Nag, Bishwajit**; Dey, Debendranath; **Medicherla, Satyanarayana**; **Neogi, Partha**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 30 pp., Cont.-in-part of U.S. Ser. No. 591,105.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2002025975 | A1 | 20020228 | US 2001-785554 | 20010220 <-- |
| US 6245814 | B1 | 20010612 | US 1998-74925 | 19980508 <-- |
| US 2002032225 | A1 | 20020314 | US 2001-843167 | 20010427 <-- |
| WO 2001095859 | A2 | 20011220 | WO 2001-US17950 | 20010605 <-- |
| WO 2001095859 | A3 | 20030828 | | |

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|---|
| AU 2001066670 | A5 | 20011224 | AU 2001-66670 | 20010605 <-- |
| EP 1360178 | A2 | 20031112 | EP 2001-944241 | 20010605 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR | | | | |
| US 2003181494 | A1 | 20030925 | US 2002-265902 | 20021008 <-- |

PRIORITY APPLN. INFO.:
US 1998-74925 A2 19980508 <--
US 1999-287237 A2 19990406 <--
US 2000-591105 A2 20000609 <--
US 2001-785554 A2 20010220 <--
US 2001-843167 A2 20010427 <--
WO 2001-US17950 W 20010605 <--

OTHER SOURCE(S): MARPAT 136:216745

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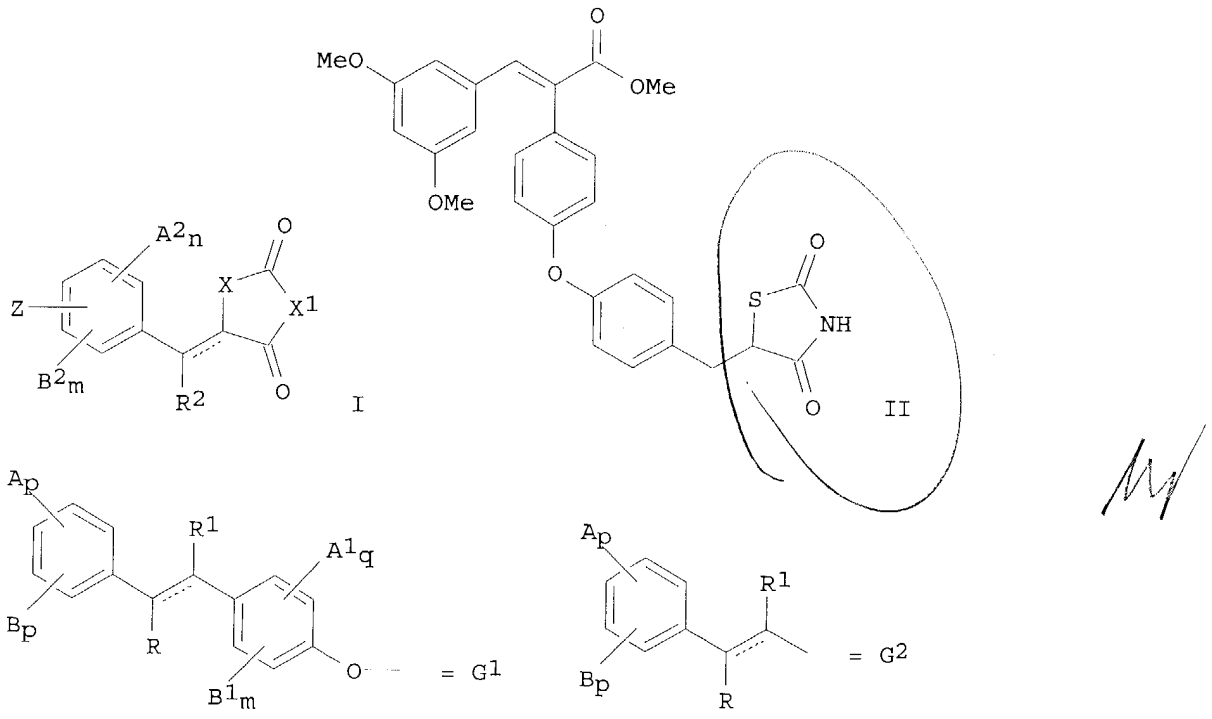


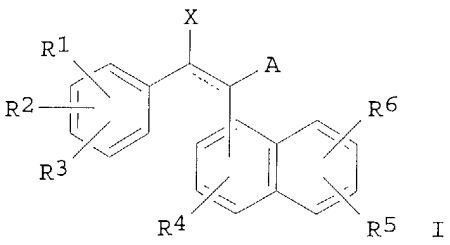

AB Title compds. I [wherein Z = G1, H, A2, B2, or G2; n, m, and q = independently 0-4; p = independently 0-5; R, R1, and R2 = independently H, (un)substituted alkyl or alkenyl, CO2Z1, CO2R3, NH2, NHR3, NR32, OH, OR3, or halo; Z1 = H, Na, K, or other pharmaceutically acceptable counterion; R3 = alkyl or alkenyl; A, A1, and A2 = independently H, acylamino, acyloxy, alkanoyl, alkoxycarbonyl, alkoxy, alkylamino, alkylcarboxylamino, carboxyl, CN, H, or OH; B, B1, and B2 = independently H, acylamino, acyloxy, alkanoyl, alkenoyl, alkoxycarbonyl, alkoxy, alkylamino, alkylcarboxylamino, aroyl, aralkanoyl, carboxyl, CN, halo, or OH; or A and B or A1 and B1 or A2 and B2 together form a methylenedioxy or ethylenedioxy group; X and X1 = independently NH, NR3, O, or S] are provided which are effective in lowering blood glucose level, serum

insulin, **triglyceride**, and free fatty acid levels in animal models of Type II **diabetes.** In contrast to previously reported thiazolidinedione compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity. Thus, II was prepared in five steps by condensation of 3,5-dimethoxybenzaldehyde with 4-hydroxyphenylacetic acid (47%), followed by esterification (97%), etherification with 4-fluorobenzaldehyde (77%), condensation with 2,4-thiazolidinedione (86%), and hydrogenation of the ylidene double bond (40%). Oral administration of II to obese mice caused a 62% drop in blood glucose level. I are useful for the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer, and multiple sclerosis.

L23 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:11108 HCAPLUS
DOCUMENT NUMBER: 136:69654
TITLE: Preparation of diphenylethylene compounds as **antidiabetic** agents
INVENTOR(S): **Nag, Bishwagit**; Dey, Debendranath; **Medicherla, Satyanarayana**; **Neogi, Partha**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U.S. Ser. No. 642,618.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE | |
|---|---|---|---|---|---|---|
| US 2002002200 | A1 | 20020103 | US 2001-777551 | | 20010205 | <-- |
| US 6624197 | B1 | 20030923 | US 2000-642618 | | 20000817 | <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-180340P | P | 20000204 | <-- |
| | | | US 2000-642618 | A2 | 20000817 | <-- |
| | | | US 1998-74925 | A2 | 19980508 | <-- |

OTHER SOURCE(S): MARPAT 136:69654
GI



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AB Title compds. I [wherein A = CO2R, CONR'R", CN, or COR7; X = H, OH, or (un)substituted alkyl or alkenyl; R = H, (ar)alkyl, or aryl; R1, R2, R3, R4, R5, R6, and R7 = independently H, (un)substituted alkyl or alkenyl; CO2R, NR'R", or CONCR'R"; R' and R" = independently H, alkyl, aryl, OH, alkoxy, acylamino, acyloxy, alkanoyl, alkoxylcarbonyl, halo, NO2, SO2R'''; CZ3; Z = independently H, halo, (halo)alkyl, or SR'''; R''' = H or alkyl; or R2 and R3 together or R5 and R6 together may be joined to form

(m)ethylenedioxy; with provisos; and E and Z isomers thereof] were prepared and shown to decrease circulating concns. of glucose when administered orally. For instance, 3,5-dimethoxybenzaldehyde was coupled with p-hydroxyphenyl acetic acid using TEA in acetic anhydride to give (E)-3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid (II), which exhibited glucose-lowering effects for more than 15 days at a dose of 20 mg/kg p.o. Examples also include twenty-six bioassays, such as studies on the effects of II on insulin resistant rats, lipid and leptin concns., PPAR binding, overexpression of the human insulin-like growth factor 1 receptor and human insulin receptor, toxicity, and kinetics of drug absorption. I are orally effective **antidiabetic** agents that normalize glucose and lipid metabolism

L23 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:923567 HCAPLUS
DOCUMENT NUMBER: 136:37596
TITLE: Preparation and activity of diphenylethylene thiazolidinedione or oxazolidinedione compounds as **antidiabetics** or antiinflammatories
INVENTOR(S): **Neogi, Partha**; **Nag, Bishwajit**; **Medicherla, Satyanarayana**; Dey, Debendranath
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001095859 | A2 | 20011220 | WO 2001-US17950 | 20010605 <-- |
| WO 2001095859 | A3 | 20030828 | | |
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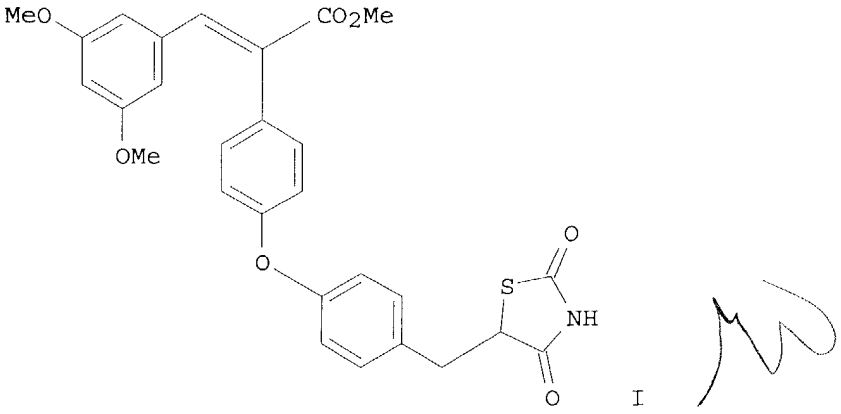
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2002025975 | A1 | 20020228 | US 2001-785554 | 20010220 <-- |
| US 2002032225 | A1 | 20020314 | US 2001-843167 | 20010427 <-- |
| AU 2001066670 | A5 | 20011224 | AU 2001-66670 | 20010605 <-- |
| EP 1360178 | A2 | 20031112 | EP 2001-944241 | 20010605 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR | | | | |

PRIORITY APPLN. INFO.:
US 2000-591105 A2 20000609 <--
US 2001-785554 A2 20010220 <--
US 2001-843167 A2 20010427 <--
US 1998-74925 A2 19980508 <--
US 1999-287237 A2 19990406 <--
WO 2001-US17950 W 20010605 <--

OTHER SOURCE(S): MARPAT 136:37596
GI




AB Novel diphenylethylene compds. and derivs. thereof containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, **triglyceride** and free fatty acid levels in animal models of Type II **diabetes.** In contrast to previously reported thiazolidinedione compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity. Thus, (I) was prepared in five steps by condensation of 3,5-dimethoxybenzaldehyde with 4-hydroxyphenylacetic acid followed by esterification and etherification with 4-fluorobenzaldehyde and condensation with 2,4-thiazolidinedione and hydrogenation of the ylidene double bond. Oral administration of I to obese mice caused a 62% drop in blood glucose level. The compds. are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis.

L23 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:581654 HCAPLUS
DOCUMENT NUMBER: 135:147444
TITLE: Novel diphenylethylene compounds
INVENTOR(S): **Nag, Bishwajit**; Dey, Debendranath; **Medicherla, Satyanarayana**
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001056382 | A1 | 20010809 | WO 2001-US3797 | 20010205 <-- |

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|---|
| US 6624197 | B1 | 20030923 | US 2000-642618 | 20000817 <-- |
| EP 1251738 | A1 | 20021030 | EP 2001-905454 | 20010205 <-- |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

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|---|---|---|---|---|
| JP 2003521500 | T2 | 20030715 | JP 2001-556090 | 20010205 <-- |

PRIORITY APPLN. INFO.:
US 2000-180340P P 20000204 <--
US 2000-642618 A 20000817 <--
US 1998-74925 A2 19980508 <--
WO 2001-US3797 W 20010205 <--

OTHER SOURCE(S): MARPAT 135:147444

AB Novel diphenylethylene compds. that are administered orally to decrease circulating concns. of glucose are provided. The effect on insulin resistant rats is also shown. The effects on lipid and leptin concns. are also shown. The compds. are orally effective anti-**diabetic** agents that may normalize glucose and lipid metabolism in subjects with **diabetes.**

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:359750 HCAPLUS
DOCUMENT NUMBER: 134:348284
TITLE: Phenyl compounds to treat **diabetes** and associated conditions
INVENTOR(S): **Neogi, Partha**; **Nag, Bishwajit**; **Lakner, Frederick J.**; Dey, Debendranath; **Medicherla, Satyanarayana**
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001034094 | A2 | 20010517 | WO 2000-US30927 | 20001108 <-- |
| WO 2001034094 | C2 | 20020725 | | |

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

| | | | | |
|---|---|---|---|---|
| US 6525093 | B1 | 20030225 | US 1999-436047 | 19991108 <-- |
| AU 2001017607 | A5 | 20010606 | AU 2001-17607 | 20001108 <-- |
| EP 1235785 | A2 | 20020904 | EP 2000-980331 | 20001108 <-- |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

| | | | | |
|---|---|---|---|---|
| JP 2004503464 | T2 | 20040205 | JP 2001-536099 | 20001108 <-- |
| US 2002107285 | A1 | 20020808 | US 2002-75442 | 20020215 <-- |

PRIORITY APPLN. INFO.:
US 1999-436047 A 19991108 <--
WO 2000-US30927 W 20001108 <--

OTHER SOURCE(S): MARPAT 134:348284

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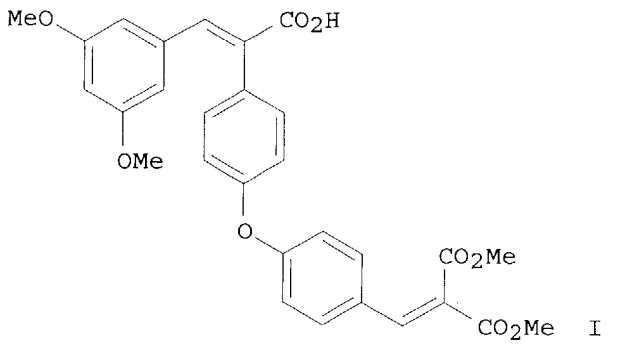


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AB Ph compds. (Markush included) are provided that lower blood glucose concns., lower serum **triglyceride** concns., lower systolic blood pressure, and increase glucose uptake by adipose tissue, but do not affect the expression of PPAR-$\gamma$ by adipose tissue. Compds. of the invention include e.g. I.

L23 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:824099 HCAPLUS
DOCUMENT NUMBER: 133:362623
TITLE: Diphenylethylenes and styrenes for decreasing blood glucose levels
INVENTOR(S): **Nag, Bishwajit**; **Medicherla, Satyanarayana**; Dey, Debendranath
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000069430 | A1 | 20001123 | WO 1999-US11001 | 19990518 <-- |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 9940857 | A1 | 20001205 | AU 1999-40857 | 19990518 <-- |
| EP 1178788 | A1 | 20020213 | EP 1999-924332 | 19990518 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002544227 | T2 | 20021224 | JP 2000-617889 | 19990518 <-- |

PRIORITY APPLN. INFO.: WO 1999-US11001 A 19990518 <--
OTHER SOURCE(S): MARPAT 133:362623
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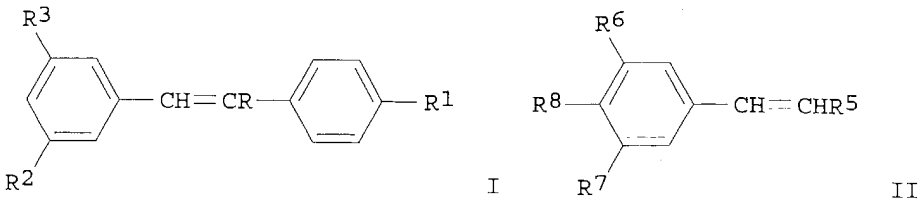

I II

AB Diphenylethylenes I (R = H, CO2H, CO2Na, etc.; R1, R2, R3 = H, OH, alkoxy; when R = H and R2 = R3 = MeO, R1 is not OH) and styrenes II (R5 = H, Me; R6, R7 = H, MeO; R8 = H, OH) were prepared as **antidiabetic** agents. Thus, reaction of 3,5-dimethoxybenzaldehyde with (4-hydroxyphenyl)acetic acid in AcOH-Et3N at 130-140° for 24 h gave I (R = CO2H, R1 = OH, R2 = R3 = MeO), which was decarboxylated by refluxing with Cu in quinoline and was converted to the Na salt by reaction with NaOH at room temperature The styrenes were prepared by Wittig reactions of benzaldehydes. I (R = CO2Na, R1 = OH, R2 = R3 = MeO) reduced blood glucose, plasma **triglyceride** , and plasma insulin levels in rats and improved glucose tolerance in insulin-resistant obese rats.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:736478 HCAPLUS
DOCUMENT NUMBER: 131:332116
TITLE: Heterocyclic analogs of diphenylethylene compounds for the treatment of **diabetes**
INVENTOR(S): **Neogi, Partha**; **Nag, Bishwajit**; **Medicherla, Satyanarayana**; Dey, Debendranath
PATENT ASSIGNEE(S): Calyx Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9958127 | A1 | 19991118 | WO 1999-US9982 | 19990507 <-- |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 6245814 | B1 | 20010612 | US 1998-74925 | 19980508 <-- |
| AU 9939741 | A1 | 19991129 | AU 1999-39741 | 19990507 <-- |
| AU 751235 | B2 | 20020808 | | |
| EP 1007039 | A1 | 20000614 | EP 1999-922836 | 19990507 <-- |
| EP 1007039 | B1 | 20040303 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

JP 2002514598 T2 20020521 JP 2000-547978 19990507 <--
AT 260906 E 20040315 AT 1999-922836 19990507 <--
PRIORITY APPLN. INFO.: US 1998-74925 A 19980508 <--
US 1999-287237 A 19990406 <--
WO 1999-US9982 W 19990507 <--
OTHER SOURCE(S): MARPAT 131:332116
AB Diphenylethylene compds. containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, **triglyceride** and free fatty acid levels in animal models of Type II **diabetes.** In contrast to previously reported thiazolidine compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 12 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:162019 BIOSIS
DOCUMENT NUMBER: PREV200300162019
TITLE: Compounds to treat diabetes and associated conditions.
AUTHOR(S): **Neogi, Partha** [Inventor, Reprint Author]; **Nag, Bishwajit** [Inventor]; **Lakner, Frederick J.** [Inventor]; Dey, Debendranath [Inventor]; **Medicherla, Satyanarayana** [Inventor]
CORPORATE SOURCE: Hayward, CA, USA
ASSIGNEE: Calyx Therapeutics Inc.
PATENT INFORMATION: US 6525093 February 25, 2003
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Feb 25 2003) Vol. 1267, No. 4. http://www.uspto.gov/web/menu/patdata.html. e-file. ISSN: 0098-1133 (ISSN print).
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Mar 2003
Last Updated on STN: 26 Mar 2003
AB Compounds are provided that lower blood glucose concentrations, lower serum **triglyceride** concentrations, lower systolic blood pressure, and increase glucose uptake by adipose tissue, but do not affect the expression of PPAR-gamma by adipose tissue.

L23 ANSWER 13 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:459396 BIOSIS
DOCUMENT NUMBER: PREV200300459396
TITLE: BLX-1002: A new class of orally-active anti-diabetic small molecule with no PPAR-gamma affinity.
AUTHOR(S): Pandey, Bindu [Reprint Author]; Nag, Abhijeet [Reprint Author]; Singh, Ashmika [Reprint Author]; Vargas, Hyang [Reprint Author]; Gutala, Sreekanth [Reprint Author]; Dey, Deben [Reprint Author]; **Nag, Bishwajit** [Reprint Author]
CORPORATE SOURCE: Union City, CA, USA
SOURCE: Diabetes, (2003) Vol. 52, No. Supplement 1, pp. A143. print.
Meeting Info.: **63rd Scientific Sessions of the American Diabetes Association.** New Orleans, LA, USA. June 13-17, 2003. American Diabetes Association.
ISSN: 0012-1797 (ISSN print).
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; (Meeting Poster)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English

ENTRY DATE: Entered STN: 8 Oct 2003
Last Updated on STN: 8 Oct 2003

L23 ANSWER 14 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:531294 BIOSIS
DOCUMENT NUMBER: PREV200300531302
TITLE: A nonadipogenic compound BLX-1002 induces glucose uptake in 3T3-L1 cells and has strong anti-hyperglycemic effect in db/db and ob/ob mice.
AUTHOR(S): Dey, D. [Reprint Author]; Gupta, A.; Pandey, B.; Nag, A. [Reprint Author]; Agarwal, S. K.; **Nag, B.** [Reprint Author]
CORPORATE SOURCE: Research and Development, Bexel Pharmaceuticals Inc., Union City, CA, USA
SOURCE: Diabetologia, (August 2003) Vol. 46, No. Supplement 2, pp. A 300. print.
Meeting Info.: **18th Congress of the International Diabetes Federation.** Paris, France. August 24-29, 2003. International Diabetes Federation.
CODEN: DBTGAJ. ISSN: 0012-186X.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 12 Nov 2003
Last Updated on STN: 12 Nov 2003

L23 ANSWER 15 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2002:370349 BIOSIS
DOCUMENT NUMBER: PREV200200370349
TITLE: SleemaX: A new herbamin formulation as an anti-obese alternative medicine with hypolipidemic and insulin sensitizing properties.
AUTHOR(S): Nag, Abhijeet [Reprint author]; Nag, Nitish [Reprint author]; **Nag, Bishwajit** [Reprint author]
CORPORATE SOURCE: BEXEL Biotechnology, Inc., 29552 Union City Blvd., Union City, CA, 94587, USA
SOURCE: FASEB Journal, (March 22, 2002) Vol. 16, No. 5, pp. A1017. print.
Meeting Info.: **Annual Meeting of Professional Research Scientists on Experimental Biology.** New Orleans, Louisiana, USA. April 20-24, 2002.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 3 Jul 2002
Last Updated on STN: 3 Jul 2002

AB Obesity is a chronic disorder characterized by several parameters such as overabundance of adipose tissue, high **triglycerides**, and link with insulin resistance. Obesity is linked with hypertension, coronary heart disease and diabetes. Limited medications are available to tackle this huge growing concern in developed countries. Studies show that a number of herbs and minerals may play a key role in lowering body fat mass in obese people. SleemaX was formulated with two natural product extracts in combination with mineral ions and unusual amino acids. When given orally to ob/ob mice for a period of three weeks, SleemaX lowered body weight by 10% without any change in daily food and water intake. SleemaX reduced hyperinsulinemia by 52%, total cholesterol by 28%, serum **triglycerides** by 42% and basal blood glucose concentration by 44% in ob/ob mice. In a fasting stage, ob/ob mice treated with SleemaX for 2

weeks showed a significant improvement in oral glucose tolerance at all time points. These results indicate that daily oral administration of SleemaX can lower body weight and ameliorate the insulin resistance in mature onset of obesity. The mechanism of SleemaX action is currently being investigated. With no change in food uptake in these animals, SleemaX has the potential as a non-appetite suppressive alternative medicine for the management of obesity.

L23 ANSWER 16 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2002:396559 BIOSIS
DOCUMENT NUMBER: PREV200200396559
TITLE: Dichol improves glucose homeostasis, insulin sensitivity, and restores lipid balance in two genetic rodent models of type II diabetes.
AUTHOR(S): **Nag, Bishwajit** [Reprint author]; **Medicherla, Satya** [Reprint author]; Nag, Abhijeet [Reprint author]
CORPORATE SOURCE: BEXEL Biotechnology, Inc., 29552 Union City Blvd., Union City, CA, 94587, USA
SOURCE: FASEB Journal, (March 20, 2002) Vol. 16, No. 4, pp. A647-A648. print.
Meeting Info.: **Annual Meeting of the Professional Research Scientists on Experimental Biology.** New Orleans, Louisiana, USA. April 20-24, 2002.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 24 Jul 2002
Last Updated on STN: 24 Jul 2002

AB Type II diabetes is a complex metabolic disorder involving hyperglycemia with progressive development of insulin resistance, and is linked with a cascade of other metabolic defects leading to hypertension and hyperlipidemia. Dichol is a herbamin formulation containing two natural product extracts in combination with trace metal ions and relevant amino acids. The efficacy of Dichol was examined in diabetic db/db and ob/ob mice. Single dose oral administration of Dichol for 2 weeks at a dose of 500 mg/kg resulted in >40% and >30% **transient** correction of hyperglycemia in db/db and ob/ob mice. Unlike many antidiabetic drugs where body weight gain occurs, formulated Dichol treatment was attributed with reduction in body weight gain in both ob/ob and db/db mice models. Oral administration of Dichol in db/db and ob/ob mice resulted in improvement in glucose tolerance, lowering of **triglycerides** (50-61%) and total cholesterol (20-52%). In addition, Dichol treatment increased HDL concentrations in db/db mice (32%) but not in ob/ob mice. Long term treatment (15-21 days) with therapeutic dose reduced food intake in both db/db and ob/ob mice. Although the mechanism of Dichol action is not yet defined, results demonstrate the feasibility of discovering a novel insulin sensitizing herbamin that may lead to new alternative therapies for diabetes associated with hyperlipidemia.

L23 ANSWER 17 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2002:134506 BIOSIS
DOCUMENT NUMBER: PREV200200134506
TITLE: Heterocyclic analogs of diphenylethylene compounds.
AUTHOR(S): **Neogi, Partha** [Inventor, Reprint author]; **Nag, Bishwajit** [Inventor]; **Medicherla, Satyanarayana** [Inventor]; Dey, Debendranath [Inventor]
CORPORATE SOURCE: Fremont, CA, USA
ASSIGNEE: Calyx Therapeutics Inc., Hayward, CA, USA
PATENT INFORMATION: US 6331633 December 18, 2001

SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 18, 2001) Vol. 1253, No. 3. http://www.uspto.gov/web/menu/patdata.html. e-file. CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Feb 2002
Last Updated on STN: 26 Feb 2002

AB Novel diphenylethylene compounds containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, **triglyceride** and free fatty acid levels in animal models of Type II diabetes. In contrast to previously reported thiazolidine compounds, known to lower leptin levels, the present compound increase leptin levels and have no known liver toxicity.

L23 ANSWER 18 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2001:297270 BIOSIS
DOCUMENT NUMBER: PREV200100297270
TITLE: Evidence for the interaction of a small molecule with insulin receptor using surface plasmon resonance.
AUTHOR(S): Dey, Deben [Reprint author]; **Neogi, Partha** [Reprint author]; **Nag, Bishwajit** [Reprint author]
CORPORATE SOURCE: Calyx Therapeutics Inc., 3525 Breakwater Avenue, Hayward, CA, 94545, USA
SOURCE: FASEB Journal, (March 7, 2001) Vol. 15, No. 4, pp. A526. print.
Meeting Info.: **Annual Meeting of the Federation of American Societies for Experimental Biology on Experimental Biology 2001.** Orlando, Florida, USA. March 31-April 04, 2001.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 20 Jun 2001
Last Updated on STN: 19 Feb 2002

AB CLX-0901, a synthetic water-soluble analog of a compound (CLX-0900) isolated from the heartwood of a plant, has been shown to lower blood glucose, **triglyceride** and free fatty acid concentrations in several animal models of type II diabetes. In addition, we have previously shown that CLX-0901, like insulin, stimulated rapid glucose uptake (within 30 minutes) in primary rat adipocytes and this uptake is inhibited by known PI 3-kinase inhibitors. CLX-0901, in a manner similar to insulin, also stimulated Akt activation and GLUT-4 **translocation** in 3T3-L1 adipocytes. To demonstrate whether these findings are due to direct interaction of CLX-0901 with the insulin receptor (IR), a cell-free system that utilizes surface plasmon resonance measurements was employed. The IR and the insulin-like growth factor binding protein-1 (IGFBP-1), used as a control surface, were immobilized by amine coupling to the dextran matrix of a CM5 sensor chip, and the remaining active groups were blocked with 1 M ethanolamine (pH 8.5). Varying concentrations of either insulin or CLX-0901 in PBS were injected at a flow rate of 20 micro liter/min for 2 minutes over the immobilized surfaces. Dose response curves of insulin and CLX-0901 were very similar, but the affinity of CLX-0901 for IR was 1000-fold less than that of insulin. Addition of CLX-0901 to the IGFBP-1 surface did not induce a response. To further **confirm** the specificity of these interactions, insulin-like growth factor-1 (IGF-1) was also injected over both surfaces. Passage of IGF-1 over an IGFBP-1 surface induced a

response to IGFBP-1 but not to IR. Several additional compounds known not to interact with IR, such as tolbutamide and an eighteen-amino-acid peptide with insulin-like activity (CLX-0100), showed no interaction with any of the surfaces. These results provide evidence that CLX-0901 selectively binds to the insulin receptor.

L23 ANSWER 19 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2001:449945 BIOSIS
DOCUMENT NUMBER: PREV200100449945
TITLE: Antidiabetic properties of CLX-090700, a non-thiazolidinedione compound.
AUTHOR(S): Gowri, Maya [Reprint author]; Dey, Deben [Reprint author]; Cheng, Jin [Reprint author]; Sen, Ananda [Reprint author]; **Medicherla, Satya** [Reprint author]; **Neogi, Partha** [Reprint author]
CORPORATE SOURCE: Hayward, CA, USA
SOURCE: Diabetes, (June, 2001) Vol. 50, No. Supplement 2, pp. A69. print.
Meeting Info.: **61st Scientific Sessions of the American Diabetes Association.** Philadelphia, Pennsylvania, USA. June 22-26, 2001. American Diabetes Association.
CODEN: DIAEAZ. ISSN: 0012-1797.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 19 Sep 2001
Last Updated on STN: 22 Feb 2002

L23 ANSWER 20 OF 20 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1995:194325 BIOSIS
DOCUMENT NUMBER: PREV199598208625
TITLE: Co-regulation of very low density lipoprotein metabolism by dietary carbohydrate and cholesterol in hamsters.
AUTHOR(S): Almario, R. [Reprint author]; **Medicherla, S.**; Kasim-Karakas, S. E.
CORPORATE SOURCE: Univ. California, Davis, CA, USA
SOURCE: FASEB Journal, (1995) Vol. 9, No. 3, pp. A440.
Meeting Info.: Experimental Biology 95, Part I. Atlanta, Georgia, USA. April 9-13, 1995.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: **Conference; (Meeting)**
**Conference; Abstract; (Meeting Abstract)**
LANGUAGE: English
ENTRY DATE: Entered STN: 5 May 1995
Last Updated on STN: 15 May 1995

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DICTIONARY FILE UPDATES:  19 JUL 2004  HIGHEST RN 713066-32-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 16, 2004 (20040716/UP).

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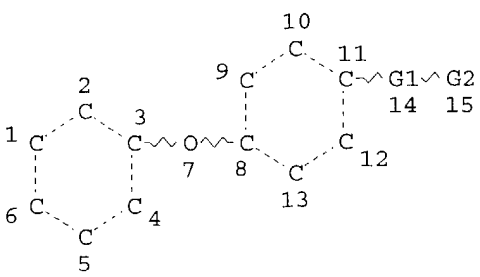

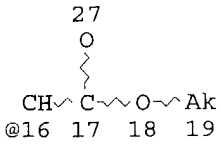

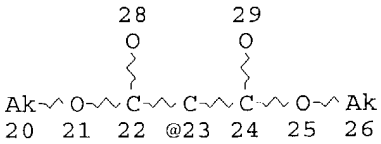

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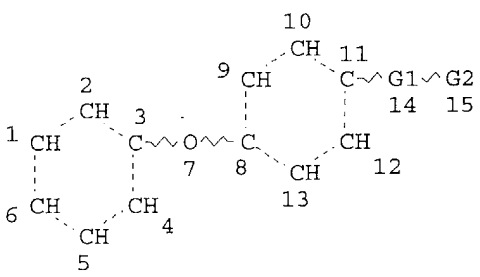

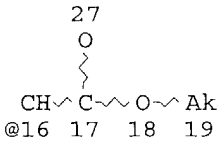

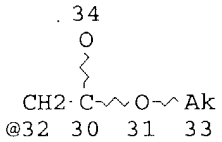

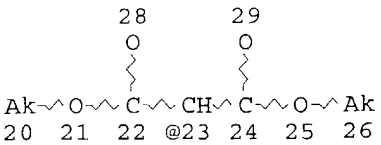

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GRAPH ATTRIBUTES:
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STEREO ATTRIBUTES: NONE
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=> fil reg

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DICTIONARY FILE UPDATES:  19 JUL 2004  HIGHEST RN 713066-32-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
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Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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L20          ANALYZE L18 1- LC :        6 TERMS

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=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:04:19 ON 20 JUL 2004
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 16, 2004 (20040716/UP).

=> => fil beilst

FILE 'BEILSTEIN' ENTERED AT 15:14:30 ON 20 JUL 2004


FILE RELOADED ON OCTOBER 20, 2002
FILE LAST UPDATED ON JUNE 15, 2004

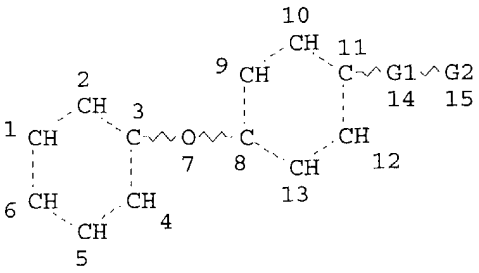
FILE COVERS 1771 TO 2003.
*** FILE CONTAINS 8,997,153 SUBSTANCES ***

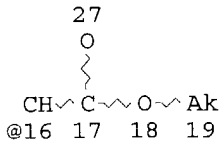
>>> PLEASE NOTE: Reaction data and substance data are stored in
separate documents and can not be searched together in one
query.
Reaction data for BEILSTEIN compounds may be displayed
immediately with the display codes PRE (preparations) and REA
(reactions). A substance answer set retrieved after the search
for a chemical name, a molecular formula or a structure search
for example can be restricted to compounds with available
reaction information by concatenation with PRE/FA, REA/FA or
more general with RX/FA. The BEILSTEIN Registry Number (BRN)
is the link between a BEILSTEIN compound and belonging reactions.
For more detailed reaction searches BRNs can be selected from
substance answer sets and searched in the next step as reaction
partner BRNs - Reactant (RX.RBRN) or Product BRN (RX.PBRN).
After a search for reaction details substance documents
associated with reactants or products may be retrieved by
searching RX.PBRNs or RX.RBRNs as BRNs. <<<

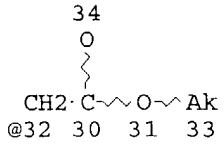
>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

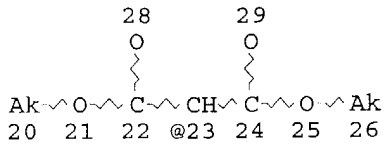
```
**********************************************************************
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST.                *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE   *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE          *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                        *
* FOR PRICE INFORMATION SEE HELP COST                                *
**********************************************************************
```

=> d que l22
L16 STR




VAR G1=CH2/16
VAR G2=CH3/32/23
NODE ATTRIBUTES:
NSPEC IS RC AT 7
CONNECT IS E1 RC AT 27
CONNECT IS E1 RC AT 28
CONNECT IS E1 RC AT 29
CONNECT IS E1 RC AT 34
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

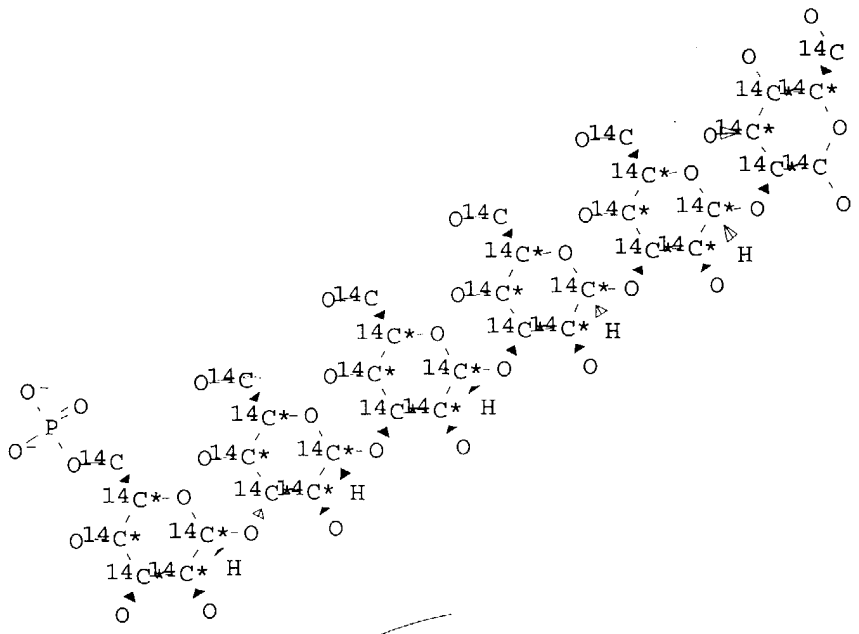
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE
L21 8 SEA FILE=BEILSTEIN SSS FUL L16
L22 4 SEA FILE=BEILSTEIN ABB=ON PLU=ON L21 NOT RN/FA

=> d ide l22

L22 ANSWER 1 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

| | |
|---|---|
| Beilstein Records (BRN): | 9317926 |
| Lin. Struct. Formula (LSF): | (14)C36H61O34P(2-) |
| Molec. Formula (MF): | C36 H61 O34 P |
| Molecular Weight (MW): | 1068.83 |
| Lawson Number (LN): | 17647, 1122 |
| File Segment (FS): | Stereo compound |
| Compound Type (CTYPE): | heterocyclic |
| Constitution ID (CONSID): | 7867777 |
| Tautomer ID (TAUTID): | 8747803 |
| Entry Date (DED): | 2003/04/17 |
| Update Date (DUPD): | 2003/04/17 |



Field Availability:

| Code | Name | Occurrence |
|---|---|---|
| BRN | Beilstein Records | 1 |
| LSF | Linearized Structure Formula | 1 |
| MF | Molecular Formula | 1 |
| FW | Formular Weight | 1 |
| LN | Lawson Number | 2 |
| FS | File Segment | 1 |
| CTYPE | Compound Type | 1 |
| CONSID | Constitution ID | 1 |
| TAUTID | Tautomer ID | 1 |
| ED | Entry Date | 1 |
| UPD | Update Date | 1 |

This substance also occurs in Reaction Documents:

| Code | Name | Occurrence |
|---|---|---|
| RX | Reaction Documents | 1 |
| RXPRO | Substance is Reaction Product | 1 |

=> d l22 rx

L22 ANSWER 1 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Reaction:
RX

| | |
|---|---|
| Reaction ID (.ID): | 9208376 |
| Reactant BRN (.RBRN): | 6409585 |
| Reactant (.RCT): | U-14C-Glucose |
| Product BRN (.PBRN): | 9315848, 9316930, 9317534, 9317926 |

Product (.PRO): (14)C18H31O19P(2-), (14)C24H41O24P(2-), (14)C30H51O29P(2-), (14)C36H61O34P(2-)
No. of React. Details (.NVAR): 1

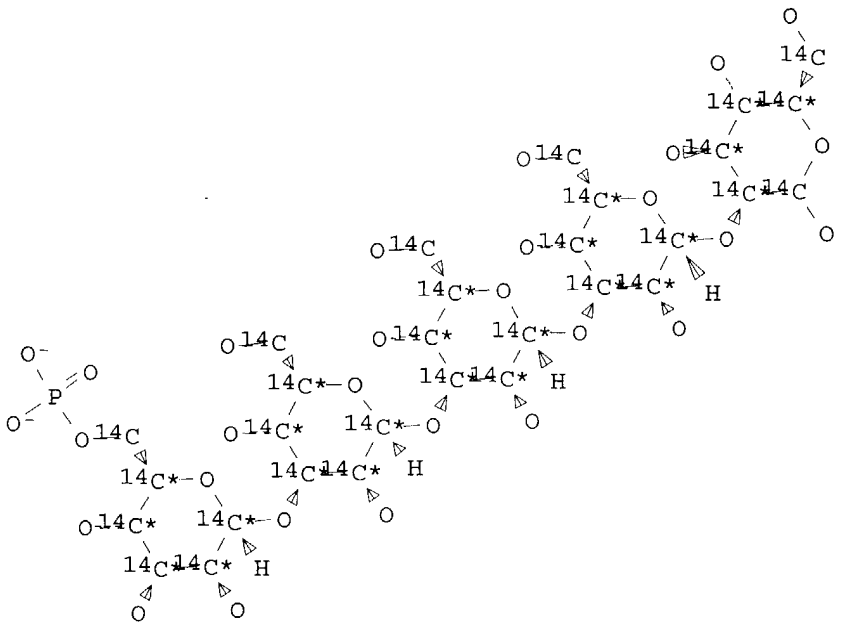
Reaction Details:
RX
Reaction RID (.RID): 9208376.1
Reaction Classification (.CL): Multistage
Nr. of Stages (.SNR): 2
Stage 1
Reagent (.RGT): Pichia hostii NRRL Y-2448 culture, KH2PO4
Solvent (.SOL): H2O
Time (.TIM): 15.5 hour(s)
Temperature (.T): 28 Cel
Stage 2
Reagent (.RGT): HCl
Solvent (.SOL): H2O
Time (.TIM): 6 hour(s)
pH Value (.PH): 2
Other Conditions (.COND): Heating
Note(s) (.COM): Further byproducts given. Title compound not separated from byproducts

Reference(s):
1. Ferro, Vito; Li, Caiping; Wang, Bin; Fewings, Kym; King, Andrew R.; Hammond, Edward; Creese, Brian R., J.Labelled Compd.Radiopharm., CODEN: JLCRD4, 45(9), <2002>, 747 - 754; BABS-6369742

=> d l22 ide 2

L22 ANSWER 2 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Beilstein Records (BRN): 9317534
Lin. Struct. Formula (LSF): (14)C30H51O29P(2-)
Molec. Formula (MF): C30 H51 O29 P
Molecular Weight (MW): 906.69
Lawson Number (LN): 17647, 1122
File Segment (FS): Stereo compound
Compound Type (CTYPE): heterocyclic
Constitution ID (CONSID): 7867414
Tautomer ID (TAUTID): 8747344
Entry Date (DED): 2003/04/17
Update Date (DUPD): 2003/04/17



Field Availability:

| Code | Name | Occurrence |
|---|---|---|
| BRN | Beilstein Records | 1 |
| LSF | Linearized Structure Formula | 1 |
| MF | Molecular Formula | 1 |
| FW | Formular Weight | 1 |
| LN | Lawson Number | 2 |
| FS | File Segment | 1 |
| CTYPE | Compound Type | 1 |
| CONSID | Constitution ID | 1 |
| TAUTID | Tautomer ID | 1 |
| ED | Entry Date | 1 |
| UPD | Update Date | 1 |

This substance also occurs in Reaction Documents:

| Code | Name | Occurrence |
|---|---|---|
| RX | Reaction Documents | 1 |
| RXPRO | Substance is Reaction Product | 1 |

d l22 rx 2

L22 ANSWER 2 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Reaction:
RX

Reaction ID (.ID): 9208376
Reactant BRN (.RBRN): 6409585
Reactant (.RCT): U-14C-Glucose

Product BRN (.PBRN): 9315848, 9316930, 9317534, 9317926
Product (.PRO): (14)C18H31O19P(2-), (14)C24H41O24P(2-), (14)C30H51O29P(2-), (14)C36H61O34P(2-)
No. of React. Details (.NVAR): 1

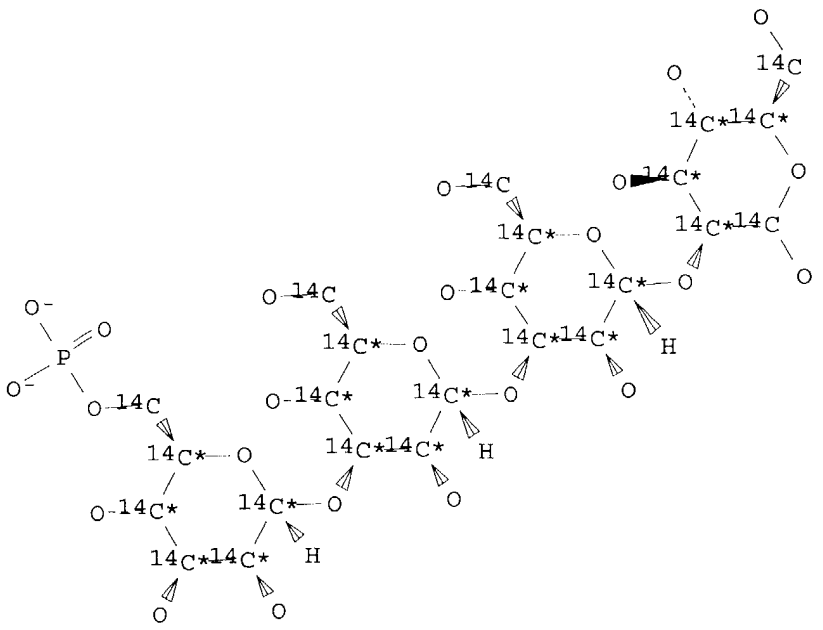
Reaction Details:
RX
Reaction RID (.RID): 9208376.1
Reaction Classification (.CL): Multistage
Nr. of Stages (.SNR): 2
Stage 1
Reagent (.RGT): Pichia hostii NRRL Y-2448 culture, KH2PO4
Solvent (.SOL): H2O
Time (.TIM): 15.5 hour(s)
Temperature (.T): 28 Cel
Stage 2
Reagent (.RGT): HCl
Solvent (.SOL): H2O
Time (.TIM): 6 hour(s)
pH Value (.PH): 2
Other Conditions (.COND): Heating
Note(s) (.COM): Further byproducts given. Title compound not separated from byproducts

Reference(s):
1. Ferro, Vito; Li, Caiping; Wang, Bin; Fewings, Kym; King, Andrew R.; Hammond, Edward; Creese, Brian R., J.Labelled Compd.Radiopharm., CODEN: JLCRD4, 45(9), <2002>, 747 - 754; BABS-6369742

=> d l22 ide 3

L22 ANSWER 3 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Beilstein Records (BRN): 9316930
Lin. Struct. Formula (LSF): (14)C24H41O24P(2-)
Molec. Formula (MF): C24 H41 O24 P
Molecular Weight (MW): 744.55
Lawson Number (LN): 17647, 1122
File Segment (FS): Stereo compound
Compound Type (CTYPE): heterocyclic
Constitution ID (CONSID): 7866922
Tautomer ID (TAUTID): 8746329
Entry Date (DED): 2003/04/17
Update Date (DUPD): 2003/04/17



Field Availability:

| Code | Name | Occurrence |
|---|---|---|
| BRN | Beilstein Records | 1 |
| LSF | Linearized Structure Formula | 1 |
| MF | Molecular Formula | 1 |
| FW | Formular Weight | 1 |
| LN | Lawson Number | 2 |
| FS | File Segment | 1 |
| CTYPE | Compound Type | 1 |
| CONSID | Constitution ID | 1 |
| TAUTID | Tautomer ID | 1 |
| ED | Entry Date | 1 |
| UPD | Update Date | 1 |

This substance also occurs in Reaction Documents:

| Code | Name | Occurrence |
|---|---|---|
| RX | Reaction Documents | 1 |
| RXPRO | Substance is Reaction Product | 1 |

=>
=> d l22 rx 3

L22 ANSWER 3 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Reaction:
RX
Reaction ID (.ID): 9208376
Reactant BRN (.RBRN): 6409585

Reactant (.RCT): U-14C-Glucose
Product BRN (.PBRN): 9315848, 9316930, 9317534, 9317926
Product (.PRO): (14)C18H31O19P(2-), (14)C24H41O24P(2-), (14)C30H51O29P(2-), (14)C36H61O34P(2-)
No. of React. Details (.NVAR): 1

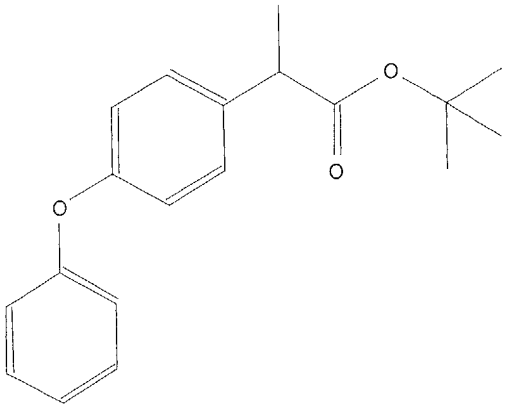
Reaction Details:
RX
Reaction RID (.RID): 9208376.1
Reaction Classification (.CL): Multistage
Nr. of Stages (.SNR): 2
Stage 1
Reagent (.RGT): Pichia hostii NRRL Y-2448 culture, KH2PO4
Solvent (.SOL): H2O
Time (.TIM): 15.5 hour(s)
Temperature (.T): 28 Cel
Stage 2
Reagent (.RGT): HCl
Solvent (.SOL): H2O
Time (.TIM): 6 hour(s)
pH Value (.PH): 2
Other Conditions (.COND): Heating
Note(s) (.COM): Further byproducts given. Title compound not separated from byproducts

Reference(s):
1. Ferro, Vito; Li, Caiping; Wang, Bin; Fewings, Kym; King, Andrew R.; Hammond, Edward; Creese, Brian R., J.Labelled Compd.Radiopharm., CODEN: JLCRD4, 45(9), <2002> 747 - 754; BABS-6369742

=> d ide l22 4

L22 ANSWER 4 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Beilstein Records (BRN): 8984649
Chemical Name (CN): tert-butyl α-(4-diphenoxy)propionate
Autonom Name (AUN): 2-(4-phenoxy-phenyl)-propionic acid tert-butyl ester
Molec. Formula (MF): C19 H22 O3
Molecular Weight (MW): 298.38
Lawson Number (LN): 11705, 5219, 318
Compound Type (CTYPE): isocyclic
Constitution ID (CONSID): 7596317
Tautomer ID (TAUTID): 8448692
Entry Date (DED): 2002/04/29
Update Date (DUPD): 2002/04/29



Field Availability:

| Code | Name | Occurrence |
|---|---|---|
| BRN | Beilstein Records | 1 |
| CN | Chemical Name | 1 |
| AUN | Autonomname | 1 |
| MF | Molecular Formula | 1 |
| FW | Formular Weight | 1 |
| LN | Lawson Number | 3 |
| CTYPE | Compound Type | 1 |
| CONSID | Constitution ID | 1 |
| TAUTID | Tautomer ID | 1 |
| ED | Entry Date | 1 |
| UPD | Update Date | 1 |
| IR | Infrared Spectrum | 1 |
| NMR | Nuclear Magnetic Resonance | 3 |

This substance also occurs in Reaction Documents:

| Code | Name | Occurrence |
|---|---|---|
| RX | Reaction Documents | 2 |
| RXPRO | Substance is Reaction Product | 2 |

=> d rx l22 4

L22 ANSWER 4 OF 4 BEILSTEIN COPYRIGHT 2004 BEILSTEIN MDL on STN

Reaction:
RX

| | |
|---|---|
| Reaction ID (.ID): | 8938769 |
| Reactant BRN (.RBRN): | 1747857, 1948803 |
| Reactant (.RCT): | propionic acid tert-butyl ester, (4-chloro-phenyl)-phenyl ether |
| Product BRN (.PBRN): | 8984649 |
| Product (.PRO): | 2-(4-phenoxy-phenyl)-propionic acid tert-butyl ester |
| No. of React. Details (.NVAR): | 1 |

Reaction Details:
RX

| | |
|---|---|
| Reaction RID (.RID): | 8938769.1 |
| Reaction Classification (.CL): | Preparation |
| Yield (.YDT): | 54 percent (BRN=8984649) |
| Reagent (.RGT): | Pd2(dba)3, LiHMDS, 2-P(t-Bu)2-2'-NMe2-1,1'-biphenyl |
| Solvent (.SOL): | toluene |
| Time (.TIM): | 3 hour(s) |
| Temperature (.T): | 80 Cel |

Reference(s):
1. Moradi, Wahed A.; Buchwald, Stephen L., J.Amer.Chem.Soc., CODEN: JACSAT, 123(33), <2001>, 7996 - 8002; BABS-6324113

Reaction:
RX

| | |
|---|---|
| Reaction ID (.ID): | 8934433 |
| Reactant BRN (.RBRN): | 1747857, 1308972 |
| Reactant (.RCT): | propionic acid tert-butyl ester, 1-bromo-4-phenoxy-benzene |
| Product BRN (.PBRN): | 8984649 |
| Product (.PRO): | 2-(4-phenoxy-phenyl)-propionic acid tert-butyl ester |
| No. of React. Details (.NVAR): | 1 |

Reaction Details:
RX

| | |
|---|---|
| Reaction RID (.RID): | 8934433.1 |
| Reaction Classification (.CL): | Preparation |
| Yield (.YDT): | 71 percent (BRN=8984649) |
| Reagent (.RGT): | Pd(OAc)2, LiHMDS, 2-PCy2-2'-NMe2-1,1'-biphenyl |
| Solvent (.SOL): | toluene |
| Time (.TIM): | 2 hour(s) |
| Temperature (.T): | 80 Cel |

Reference(s):
1. Moradi, Wahed A.; Buchwald, Stephen L., J.Amer.Chem.Soc., CODEN: JACSAT, 123(33), <2001>, 7996 - 8002; BABS-6324113

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:18:25 ON 20 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT


FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 16, 2004 (20040716/UP).

=>

=> fil lreg

FILE 'LREGISTRY' ENTERED AT 15:11:10 ON 20 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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LREGISTRY IS A STATIC LEARNING FILE

=> fil reg

FILE 'REGISTRY' ENTERED AT 15:11:12 ON 20 JUL 2004
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 19 JUL 2004 HIGHEST RN 713066-32-1
DICTIONARY FILE UPDATES: 19 JUL 2004 HIGHEST RN 713066-32-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>

=> fil beilst

FILE 'BEILSTEIN' ENTERED AT 15:11:25 ON 20 JUL 2004
COPYRIGHT (C) 2004 Beilstein-Institut zur Foerderung der Chemischen Wissenschaften
licensed to Beilstein GmbH and MDL Information Systems GmbH

FILE RELOADED ON OCTOBER 20, 2002
FILE LAST UPDATED ON JUNE 15, 2004

FILE COVERS 1771 TO 2003.
*** FILE CONTAINS 8,997,153 SUBSTANCES ***

>>> PLEASE NOTE: Reaction data and substance data are stored in
separate documents and can not be searched together in one
query.
Reaction data for BEILSTEIN compounds may be displayed
immediately with the display codes PRE (preparations) and REA
(reactions). A substance answer set retrieved after the search
for a chemical name, a molecular formula or a structure search
for example can be restricted to compounds with available
reaction information by concatenation with PRE/FA, REA/FA or
more general with RX/FA. The BEILSTEIN Registry Number (BRN)
is the link between a BEILSTEIN compound and belonging reactions.
For more detailed reaction searches BRNs can be selected from

substance answer sets and searched in the next step as reaction partner BRNs - Reactant (RX.RBRN) or Product BRN (RX.PBRN). After a search for reaction details substance documents associated with reactants or products may be retrieved by searching RX.PBRNs or RX.RBRNs as BRNs. <<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

```
**********************************************************************
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST.                *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE   *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE          *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                        *
* FOR PRICE INFORMATION SEE HELP COST                                *
**********************************************************************
```

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 15:11:34 ON 20 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


FILE COVERS 1907 - 20 Jul 2004 VOL 141 ISS 4
FILE LAST UPDATED: 19 Jul 2004 (20040719/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil uspatfull

FILE 'USPATFULL' ENTERED AT 15:11:42 ON 20 JUL 2004


FILE COVERS 1971 TO PATENT PUBLICATION DATE: 20 Jul 2004 (20040720/PD)
FILE LAST UPDATED: 20 Jul 2004 (20040720/ED)
HIGHEST GRANTED PATENT NUMBER: US6766528
HIGHEST APPLICATION PUBLICATION NUMBER: US2004139525
CA INDEXING IS CURRENT THROUGH 20 Jul 2004 (20040720/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 20 Jul 2004 (20040720/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2004
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2004

>>> USPAT2 is now available. USPATFULL contains full text of the <<<
>>> original, i.e., the earliest published granted patents or <<<
>>> applications. USPAT2 contains full text of the latest US <<<
>>> publications, starting in 2001, for the inventions covered in <<<

>>> USPATFULL. A USPATFULL record contains not only the original <<<
>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:11:46 ON 20 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
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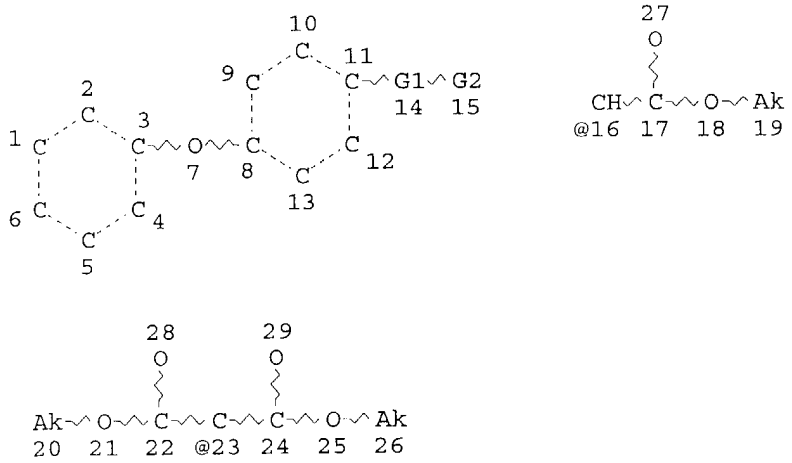
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 16, 2004 (20040716/UP).

=> d que l19
L11 STR




VAR G1=CH2/16
VAR G2=CH2/16/23
NODE ATTRIBUTES:
NSPEC IS RC AT 7
CONNECT IS E1 RC AT 27
CONNECT IS E1 RC AT 28
CONNECT IS E1 RC AT 29
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE
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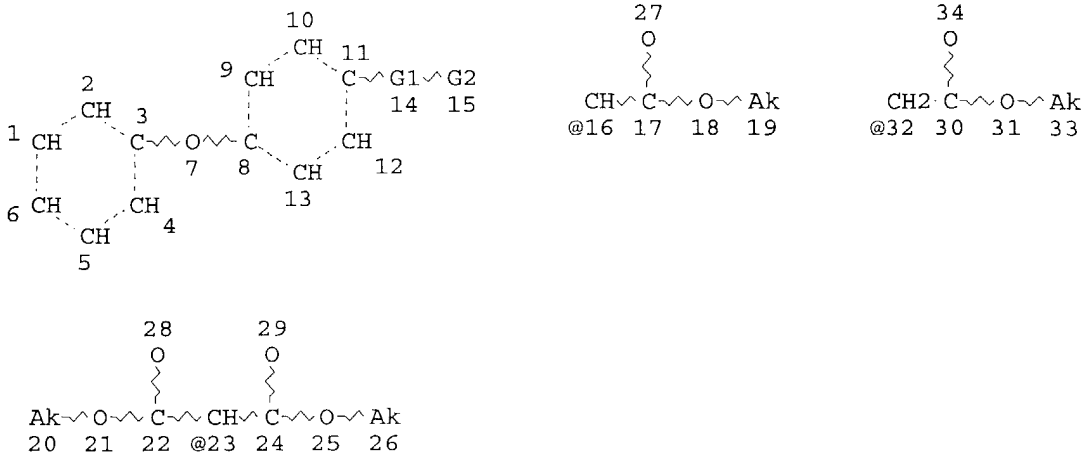
L16 STR




VAR G1=CH2/16
VAR G2=CH3/32/23
NODE ATTRIBUTES:
NSPEC IS RC AT 7
CONNECT IS E1 RC AT 27
CONNECT IS E1 RC AT 28
CONNECT IS E1 RC AT 29
CONNECT IS E1 RC AT 34
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE
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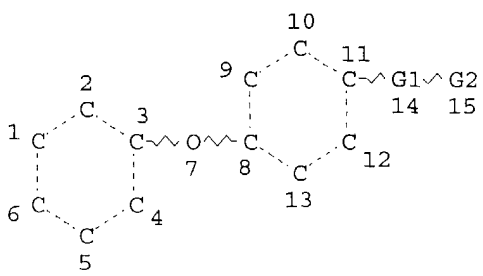
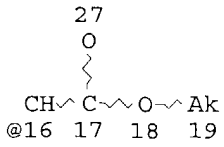
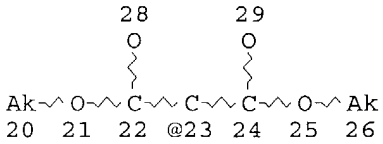
L19 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L18

=> d que l23
L11 STR



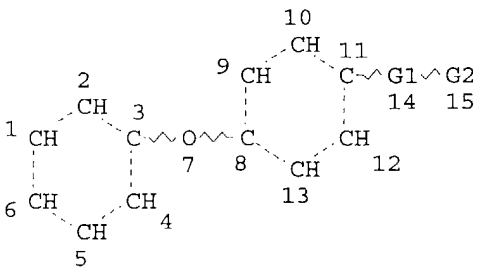



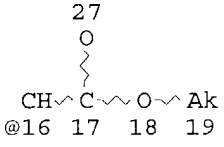



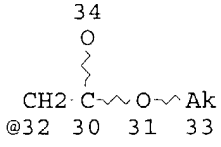

VAR G1=CH2/16
VAR G2=CH2/16/23
NODE ATTRIBUTES:
NSPEC IS RC AT 7
CONNECT IS E1 RC AT 27
CONNECT IS E1 RC AT 28
CONNECT IS E1 RC AT 29
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

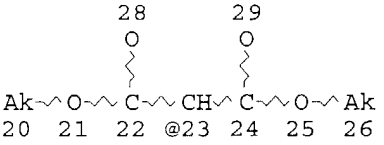
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE
L13 4813 SEA FILE=REGISTRY SSS FUL L11
L16 STR

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RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  34

STEREO ATTRIBUTES: NONE
L18           10 SEA FILE=REGISTRY SUB=L13 SSS FUL L16
L23            2 SEA FILE=USPATFULL ABB=ON  PLU=ON  L18


=> dup rem l19 l23

FILE 'HCAPLUS' ENTERED AT 15:12:17 ON 20 JUL 2004
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FILE 'USPATFULL' ENTERED AT 15:12:17 ON 20 JUL 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L19
PROCESSING COMPLETED FOR L23
L24           15 DUP REM L19 L23 (0 DUPLICATES REMOVED)
                 ANSWERS '1-13' FROM FILE HCAPLUS
                 ANSWERS '14-15' FROM FILE USPATFULL

=> d iall hitstr 1-13

L24  ANSWER 1 OF 15  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2001:546122  HCAPLUS
DOCUMENT NUMBER:          135:257023
ENTRY DATE:               Entered STN:  29 Jul 2001
TITLE:                    Palladium-catalyzed α-arylation of esters
AUTHOR(S):                Moradi, Wahed A.; Buchwald, Stephen L.
CORPORATE SOURCE:         Department of Chemistry, Massachusetts Institute of
                          Technology, Cambridge, MA, 02139, USA
SOURCE:                   Journal of the American Chemical Society (2001),
                          123(33), 7996-8002
                          CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
CLASSIFICATION:           25-18 (Benzene, Its Derivatives, and Condensed
                          Benzenoid Compounds)
OTHER SOURCE(S):          CASREACT 135:257023
ABSTRACT:
A new and simple one-pot procedure for the palladium-catalyzed intermol.
α-arylation of esters is described.  A number of esters, e.g. MeCO2CMe3, can
be functionalized with a wide range of aryl bromides, e.g. 2-MeC6H4Br, using
Pd(OAc)2 or Pd2(dba)3 and bulky electron-rich o-biphenyl phosphines.  Under the
reaction conditions, using LiHMDS as base, α-arylation proceeds at room
temperature or at 80°C with very good yields and high selectivities for
monoarylation.  Important nonsteroidal antiinflammatory drug derivs. such as
(±)-naproxen tert-Bu ester and (±)-flurbiprofen tert-Bu ester can be
prepared in 79% and 86% yield, resp.  The catalyst system based on the o-biphenyl
containing a dimethylamino group and di-tert-butylphosphine moiety is also active
for the α-arylation of esters using aryl chlorides.  Furthermore, using a
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bipnaphthyl di-tert-butylphosphine ligand, the α-arylation of trisubstituted ester enolates can be accomplished to provide compds. that have quaternary centers.

SUPPL. TERM: arylation ester palladium biphenyl binaphthyl ligand catalyst

INDEX TERM: Arylation
Arylation catalysts
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)

INDEX TERM: Aryl halides
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)

INDEX TERM: 3375-31-3, palladium(II ) acetate 51364-51-3, Pd2(dba)3 213697-53-1 224311-49-3 224311-52-8
ROLE: CAT (Catalyst use); USES (Uses)
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)

INDEX TERM: 92-66-0, 1-Bromo-4-phenylbenzene 95-46-5, 2-Bromotoluene 101-55-3, 1-Bromo-4-phenoxybenzene 101-97-3, Ethyl 2-phenylacetate 103-64-0, 1-Bromo-2-phenylethene 106-38-7, 4-Bromotoluene 106-43-4, 4-Chlorotoluene 108-37-2, 1-Bromo-3-chlorobenzene 401-78-5, 1-Bromo-3-(trifluoromethyl)benzene 460-00-4, 1-Bromo-4-fluorobenzene 540-88-5, tert-Butyl acetate 576-22-7, 1-Bromo-2,6-dimethylbenzene 580-13-2, 2-Bromonaphthalene 586-77-6, 1-Bromo-4-(dimethylamino)benzene 623-12-1, 1-Chloro-4-methoxybenzene 2039-88-5, 1-Bromo-2-vinylbenzene 2308-38-5, tert-Butyl butanoate 5111-65-9, 2-Bromo-6-methoxynaphthalene 5892-99-9 7005-72-3, 1-Chloro-4-phenoxybenzene 7073-94-1, 1-Bromo-2-(isopropyl)benzene 7452-79-1, Ethyl 2-methylbutanoate 20487-40-5, tert-Butyl propanoate 23786-14-3 41604-19-7, 1,1'-Biphenyl, 4-bromo-2-fluoro 59247-47-1, tert-Butyl 4-bromobenzoate
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)

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ROLE: SPN (Synthetic preparation); PREP (Preparation)
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):

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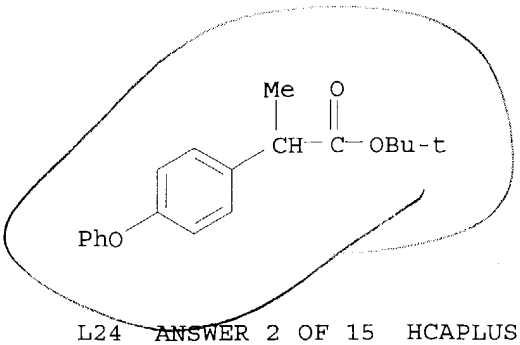
IT **362523-48-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(palladium-catalyzed α-arylation of esters with aryl halides using biphenyl/binaphthyl phosphine ligands)
RN 362523-48-6 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

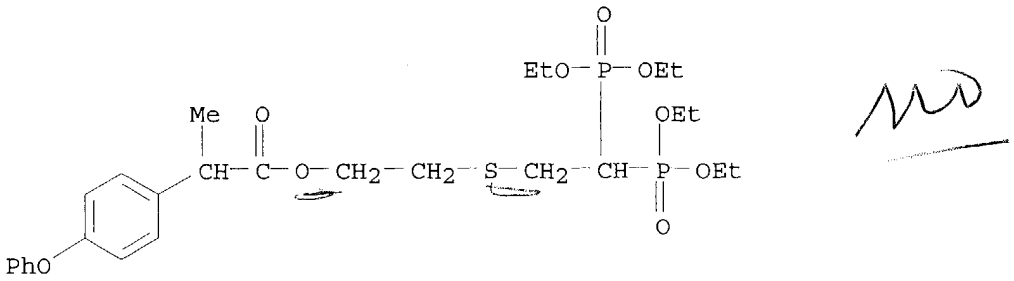



L24 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:136796 HCAPLUS
DOCUMENT NUMBER: 132:265251
ENTRY DATE: Entered STN: 29 Feb 2000
TITLE: Synthesis of antiinflammatory analgesics bisphosphonate compounds
AUTHOR(S): Zheng, Hu; Wu, Yong; Weng, Ling-Ling
CORPORATE SOURCE: School of Pharmacy, West China University of Medical Sciences, Chengdu, 610041, Peop. Rep. China
SOURCE: Hecheng Huaxue (1999), 7(4), 427-429
CODEN: HEHUE2; ISSN: 1005-1511
PUBLISHER: Hecheng Huaxue Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
CLASSIFICATION: 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 1

ABSTRACT:
Bisphosphonates, e.g. HOCH2CH2SCH2CH[P(O)(OEt)2]2, have bone-seeking affinity, antiarthritic and analgesic activity as well. In order to research bone-targeted leading compds. with high activity of antihypertrophic arthritics and low toxicity, five antiinflammatory analgesics-bisphosphonate compds. were designed and synthesized.

SUPPL. TERM: antiinflammatory analgesic bis phosphonate prepn; bisphosphonate prepn antiinflammatory analgesic
INDEX TERM: Antiarthritics
(antihypertrophic; synthesis of antiinflammatory analgesics bisphosphonate compds.)
INDEX TERM: Anti-inflammatory agents
(nonsteroidal; synthesis of antiinflammatory analgesics bisphosphonate compds.)
INDEX TERM: 6145-33-1P 121001-81-8P 177172-94-0P 182919-44-4P
263565-12-4P 263565-13-5P 263565-14-6P
**263565-15-7P** 263565-16-8P 263565-17-9P
ROLE: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of antiinflammatory analgesics bisphosphonate compds.)

IT **263565-15-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of antiinflammatory analgesics bisphosphonate compds.)
RN 263565-15-7 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, 2-[[2,2-bis(diethoxyphosphinyl)ethyl]thio]ethyl ester (9CI) (CA INDEX NAME)



L24 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:44662 HCAPLUS
DOCUMENT NUMBER: 126:59751
ENTRY DATE: Entered STN: 22 Jan 1997
TITLE: Preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors
INVENTOR(S): Baker, William R.; Rosenberg, Saul H.; Fung, K. L. Anthony; Rockway, Todd W.; Fakhoury, Stephen A.; Garvey, David S.; Donner, B. Gregory; O'Connor, Stephen J.; Prasad, Rajnandan N.; Shen, Wang; Stout, David M.; Sullivan, Gerard M.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: PCT Int. Appl., 241 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C07C233-73
SECONDARY: C07C233-65; C07C235-38; C07D257-04; C07C275-42; C07C335-22; C07C233-12; C07D333-20
CLASSIFICATION: 25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9634851 | A1 | 19961107 | WO 1996-US6193 | 19960502 |
| W: AU, CA, JP, KR, MX | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 5783593 | A | 19980721 | US 1996-633262 | 19960429 |
| AU 9656731 | A1 | 19961121 | AU 1996-56731 | 19960502 |

PRIORITY APPLN. INFO.:
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WO 1996-US6193 19960502

OTHER SOURCE(S): MARPAT 126:59751
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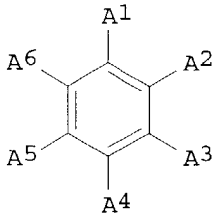


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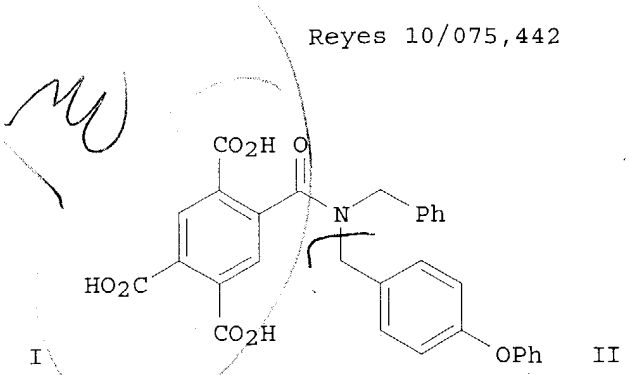


II

ABSTRACT:
Title compds. [e.g., I; A1 = ZCONR1R2, A2,A4, and A5 or A2 and A4 or A3and A4 = (protected) CO2H and the other An = H; R1 = (chloro)benzyl, (CH2)2-4Ph, CH2C6H4(OPh)-4; R2 = (CH2)1-2C6H4(OPh)-4; Z = bond, NR, O; R = H, (cyclo)alkyl, aralkyl, cycloalkylalkyl] were prepared Thus, 4-(PhO)C6H4CHO was reductively aminated by H2CH2Ph and the product amidated by 1,2,4,5-benzenetetracarboxylic dianhydride to give title compound II. Data for in vitro inhibition of protein farnesyltransferase by selected I were given.

SUPPL. TERM: carboxybenzamide squalene synthetase protein farnesyltransferase inhibitor

INDEX TERM: Artery, disease
(coronary, restenosis, prevention; preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: Ras proteins
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(farnesylation; preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: Antitumor agents
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

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ROLE: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: 131384-38-8, Protein farnesyltransferase
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: 170433-63-3P, 1,2-Benzenedicarboxylic acid, 4-hydroxymethyl-, dimethyl ester
ROLE: BYP (Byproduct); PREP (Preparation)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: 61-54-1, 3-(2-Aminoethyl)indole 65-49-6, 4-Aminosalicylic acid 67-36-7, 4-Phenoxybenzaldehyde 85-44-9, 1,3-Isobenzofurandione 89-32-7 89-51-0, Homophthalic acid 89-57-6, 5-Aminosalicylic acid 89-93-0, 2-Methylbenzylamine 93-09-4, 2-Naphthoic acid 93-55-0, Propiophenone 95-48-7, reactions 95-65-8, 3,4-Dimethylphenol 96-32-2, Methyl bromoacetate 99-63-8, 1,3-Benzenedicarbonyl dichloride 100-20-9, 1,4-Benzenedicarbonyl dichloride 100-39-0, Benzyl bromide 100-46-9, Benzylamine, reactions 100-51-6, Benzyl alcohol,

reactions 100-52-7, Benzaldehyde, reactions 100-81-2, 3-Methylbenzylamine 101-53-1, 4-Hydroxydiphenylmethane 103-49-1, Dibenzylamine 103-63-9, Phenethyl bromide 106-44-5, 4-Methylphenol, reactions 106-48-9, 4-Chlorophenol 108-39-4, 3-Methylphenol, reactions 118-31-0, 1-Naphthylmethylamine 138-25-0 150-76-5, 4-Methoxyphenol 459-57-4, 4-Fluorobenzaldehyde 527-60-6, 2,4,6-Trimethylphenol 552-30-7 556-56-9, Allyl iodide 569-51-7, 1,2,3-Benzenetricarboxylic acid 610-22-0, Dimethyl 4-nitrophthalate 699-98-9, 2,3-Pyridinedicarboxylic anhydride 703-59-3, Homophthalic anhydride 1204-28-0, 4-Chlorocarbonylphthalic anhydride 1758-46-9, 2-Phenoxyethylamine 1955-46-0, 3-Nitroisophthalic acid monomethyl ester 2038-57-5, Benzenepropanamine 2045-79-6, 2-Methoxyphenethylamine 2217-40-5, 1-Amino-1,2,3,4-Tetrahydronaphthalene 2270-20-4, 5-Phenylpentanoic acid 2393-23-9, 4-Methoxybenzylamine 2420-87-3, [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone 2421-28-5 2426-87-1, 4-Benzyloxy-3-methoxybenzaldehyde 2672-58-4, 1,3,5-Benzenetricarboxylic acid, trimethyl ester 2687-43-6, O-Benzylhydroxylamine hydrochloride 2740-83-2, 3-Trifluoromethylbenzylamine 2835-06-5 2975-41-9, 2-Aminoindane 3048-01-9, 2-Trifluoromethylbenzylamine 3082-77-7, L-Methionine ethyl ester 3113-72-2, 5-Methyl-2-nitrobenzoic acid 3132-99-8, 3-Bromobenzaldehyde 3218-02-8, Cyclohexanemethanamine 3218-36-8, 4-Phenylbenzaldehyde 3669-48-5 3711-01-1, 2,3,6,7-Naphthalenetetracarboxylic dianhydride 3731-51-9, 2-Pyridylmethylamine 3731-52-0, 3-Pyridylmethylamine 3731-53-1, 4-Pyridylmethylamine 3939-09-1, 2,4-Difluorobenzonitrile 4360-51-4, 1-Amino-3-phenyl-2-propene 4393-09-3, 2,3-DiMethoxybenzylamine 4397-53-9, 4-Benzyloxybenzaldehyde 4442-59-5, 1,4-Benzodioxan-2-methylamine 4821-94-7, 4,5-Dimethoxyphthalic anhydride 5326-47-6, 2-Amino-5-iodobenzoic acid 5372-81-6, Dimethyl aminoterephthalate 5470-84-8, 4-Benzyloxybutyraldehyde 5736-88-9, 4-Butoxybenzaldehyde 5870-38-2, Diethyl 2,5-dihydroxyterephthalate 5927-18-4, Trimethylphosphonoacetate 6050-13-1, Diphenic anhydride 6287-38-3, 3,4-Dichlorobenzaldehyde 6328-74-1, 4-Phenoxyphenylacetic acid 6850-57-3, 2-Methoxybenzylamine 6921-34-2, Benzylmagnesium chloride 7355-22-8, 5-Bromo-2,4-dihydroxybenzoic acid 7409-30-5, 4-Nitrobenzylamine 7617-76-7, 3-Phenoxypropylamine 7745-93-9, 2-Bromo-4-nitrotoluene 13214-66-9, 4-Phenylbutylamine 17532-66-0, 1,2-Benzenediacetic acid, diethyl ester 18655-51-1, 3-(2-Methoxyphenyl)propylamine 19014-14-3 19434-34-5, 2-Phenoxybenzaldehyde 20116-65-8, Dimethyl 4-methylphthalate 20781-22-0 22117-85-7 22440-62-6 22479-95-4, Dimethyl 4-hydroxyphthalate 24541-01-3, 4-Chromanone oxime 24850-33-7, Allyltributyltin 26759-46-6 27757-85-3, 2-Thiophenemethanamine 28994-41-4, 2-Hydroxydiphenylmethane 34698-41-4, 1-Aminoindane 37806-29-4, 2-Ethoxybenzylamine 37806-49-8, Benzenemethanamine, 2-(3-methylbutoxy)- 37806-66-9 39515-51-0, 3-Phenoxybenzaldehyde 39590-27-7, Benzeneethanamine, 2-ethoxy- 40663-68-1, 4-Allyloxybenzaldehyde 42116-44-9, N-tert-

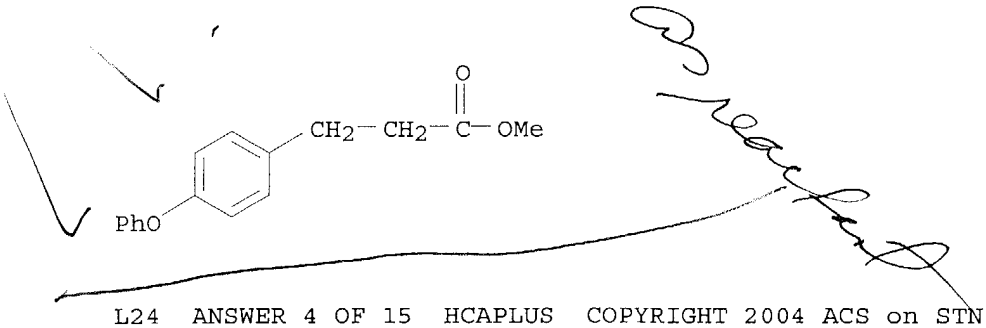
Butoxycarbonylbenzenemethanamine 58332-00-6 60728-41-8
69770-20-3, 3-(4-Chlorophenoxy)benzaldehyde 69770-23-6,
3-(4-tert-Butylphenoxy)benzaldehyde 72235-53-1,
3,4-Difluorobenzylamine 79124-75-7, 3-(4-
Methylphenoxy)benzaldehyde 79124-76-8,
3-(3,4-Dichlorophenoxy)benzaldehyde 88088-95-3,
Tris(1-benzotriazolyl)methane 107624-14-6,
Benzenemethanamine, 2-phenoxy- 165534-79-2, Dimethyl
iodoterephthalate 169943-62-8 169943-64-0 171350-07-5
171350-08-6 184229-19-4, 4-Phenoxy-3-chlorobenzaldehyde
185051-61-0 185051-62-1 185051-63-2 185051-64-3,
N-Benzyl-2-fluorenylmethylamine
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

INDEX TERM: 2215-84-1P 3786-39-8P 3898-66-6P 4315-09-7P,
4-Nitrobenzene-1,3-dicarboxylic acid 16426-64-5P
19241-40-8P 20116-67-0P, 1,2-Benzenedicarboxylic acid,
4-bromomethyl-, dimethyl ester 29710-58-5P 38588-64-6P,
1,3,5-Benzenetricarboxylic acid, dimethyl ester
39585-32-5P, Benzeneacetic acid, 2-carboxy-5-nitro-
40172-06-3P, N-(3,4-Dichlorobenzyl)ethanolamine
46253-86-5P 51832-31-6P, Dimethyl 4-aminophthalate
52446-51-2P, 2-(4-Phenoxyphenyl)ethanol 53981-38-7P,
4-Aminochroman 60313-18-0P 63746-12-3P, Dimethyl
4-aminoisophthalate 64481-29-4P 67402-72-6P
68872-14-0P 69048-70-0P, Dimethyl 4-nitroisophthalate
74733-34-9P 76784-89-9P, Benzeneacetic acid,
5-amino-2-(methoxycarbonyl)-, methyl ester 79807-86-6P
91345-28-7P 91963-85-8P 100959-22-6P, Methyl
2-bromo-4-nitrobenzoate 110786-89-5P, 1,2-
Benzenedicarboxylic acid, 4-mercapto-, dimethyl ester
129951-06-0P, Benzenebutanamine, N-phenylmethyl-
136534-67-3P, Benzenepentanamine, N-phenylmethyl-
138408-68-1P, Methyl 4-hydroxy-2-methoxy-5-vinylbenzoate
144146-84-9P, N-Benzyl-5-phenylPentanamide 147810-06-8P
169943-97-9P, N-Benzyl-N-(4-phenoxybenzyl)amine
170433-65-5P, Dimethyl 4-(carboxymethyl)phthalate
179056-63-4P 179098-29-4P 184033-42-9P,
4-tert-Butoxycarbonylamino-2-hydroxyBenzoic acid
184228-76-0P 184228-77-1P 184228-78-2P 184228-79-3P
185050-26-4P 185050-27-5P 185050-28-6P 185050-29-7P
185050-30-0P 185050-31-1P 185050-32-2P,
2-Cyano-5-iodobenzoic acid 185050-33-3P 185050-34-4P
185050-35-5P 185050-36-6P 185050-37-7P 185050-38-8P
185050-39-9P 185050-40-2P 185050-41-3P 185050-42-4P
185050-43-5P 185050-44-6P 185050-45-7P 185050-46-8P
185050-47-9P 185050-48-0P 185050-49-1P 185050-50-4P
185050-51-5P 185050-52-6P 185050-53-7P 185050-54-8P
185050-55-9P 185050-56-0P 185050-57-1P 185050-58-2P
185050-59-3P 185050-60-6P 185050-61-7P 185050-62-8P
185050-63-9P 185050-64-0P 185050-65-1P 185050-66-2P
185050-67-3P 185050-68-4P 185050-69-5P 185050-70-8P
185050-71-9P 185050-72-0P 185050-73-1P 185050-74-2P
185050-75-3P 185050-76-4P 185050-77-5P, Methyl
5-bromo-4-hydroxy-2-methoxybenzoate 185050-78-6P
185050-79-7P, Methyl 2-methoxy-4,5-divinylbenzoate
185050-80-0P, 2-Methoxy-4,5-divinylbenzoic acid
185050-81-1P 185050-82-2P 185050-83-3P 185050-84-4P

185050-85-5P 185050-86-6P 185050-87-7P 185050-88-8P
185050-89-9P 185050-90-2P 185050-91-3P 185050-92-4P
185050-93-5P 185050-94-6P, Methyl 4-tert-
Butoxycarbonylamino-2-hydroxyBenzoate 185050-95-7P
185050-96-8P 185050-97-9P 185050-98-0P 185050-99-1P
185051-00-7P 185051-01-8P **185051-02-9P**
185051-03-0P 185051-04-1P 185051-05-2P 185051-06-3P
185051-07-4P 185051-08-5P 185051-09-6P 185051-10-9P
185051-11-0P 185051-12-1P 185051-13-2P 185051-14-3P
185051-15-4P 185051-16-5P 185051-17-6P 185051-18-7P
185051-19-8P 185051-20-1P 185051-21-2P 185051-22-3P
185051-23-4P 185051-24-5P 185051-25-6P 185051-26-7P
185051-27-8P 185051-28-9P 185051-29-0P 185051-30-3P
185051-31-4P 185051-32-5P 185051-33-6P 185051-34-7P
185051-35-8P 185051-36-9P 185051-37-0P 185051-38-1P
185051-39-2P 185051-40-5P 185051-41-6P 185051-42-7P
185051-43-8P 185051-44-9P 185051-45-0P 185051-46-1P
185051-47-2P 185051-48-3P 185051-49-4P 185051-50-7P
185051-51-8P 185051-52-9P 185051-53-0P 185051-54-1P
185051-55-2P 185051-56-3P 185051-57-4P 185051-58-5P
185051-59-6P 185051-60-9P 185051-67-6P 185230-57-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

IT **185051-02-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of di- and tricarboxybenzamides and analogs as squalene synthetase and protein farnesyltransferase inhibitors)

RN 185051-02-9 HCAPLUS
CN Benzenepropanoic acid, 4-phenoxy-, methyl ester (9CI) (CA INDEX NAME)




L24 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:442116 HCAPLUS
DOCUMENT NUMBER: 121:42116
ENTRY DATE: Entered STN: 23 Jul 1994
TITLE: Study on the source of nonvolatile mutagenic organics in the water of East Lake and the tap water from it
AUTHOR(S): Tian, Shizhong; Huang, Zhidan; Deng, Nansheng; Zhang, Jiayao; Zhao, Pihong; Xiao, Mei; Liu, Dazhi; Zhizhong, Jing; Meilan, Wang; Xizhao, Yuan
CORPORATE SOURCE: Dep. Environ. Sci., Wuhan Univ., Wuhan, 430072, Peop. Rep. China
SOURCE: Zhongguo Huanjing Kexue (1993), 13(2), 100-5
CODEN: ZHKEEI; ISSN: 1000-6923
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
CLASSIFICATION: 61-2 (Water)

Section cross-reference(s): 4, 10

ABSTRACT:
A total of 102 organic pollutants (alkylbenzenes, polycyclic aromatic hydrocarbons, phthalic esters, etc.) in East Lake and the tap water from it were identified by gas chromatog.-mass spectrometry. Ames test results showed that they have mutagenicity to TA98, and are direct mutagens. Model test of chlorination of humic acid or fulvic acid showed that humics of low concentration in water do not form
nonvolatile mutagenic orgs. and nonvolatile mutagenic orgs. in the tap water from East Lake.

SUPPL. TERM: org water pollution East Lake China; Salmonella typhimurium toxicity org lake pollution; Ames test toxicity org water pollution

INDEX TERM: Water pollution
(by organic compds., of lake water and potable water, Salmonella typhimurium toxicity in relation to, of East Lake, China)

INDEX TERM: Organic compounds, biological studies
ROLE: BIOL (Biological study)
(lake water and potable water pollution by, Salmonella typhimurium toxicity in relation to, of East Lake, China)

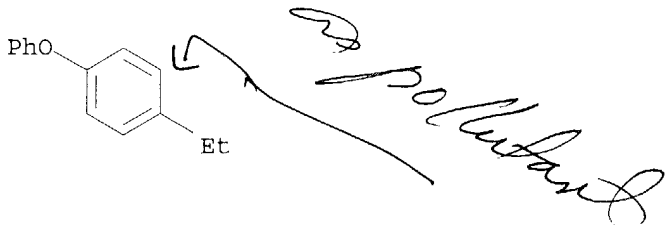
INDEX TERM: Toxicity
(of organic compds. in polluted lake water and potable water, to Salmonella typhimurium strain TA-98, Ames test determination of, of East Lake, China)

INDEX TERM: Salmonella typhimurium
(strain TA-98, polluted lake and potable water toxicity to, Ames test for, of East Lake, China)

INDEX TERM: 57-10-3, Hexadecanoic acid, biological studies 64-19-7, Acetic acid, biological studies 67-66-3, Trichloromethane, biological studies 71-43-2, Benzene, biological studies 75-27-4, Bromodichloromethane 75-65-0, Tert-Butanol, biological studies 84-66-2, Diethyl phthalate 84-69-5, Diisobutyl phthalate 84-74-2, Dibutyl phthalate 86-73-7, Fluorene 91-20-3, Naphthalene, biological studies 95-16-9, Benzothiazole 95-50-1, o-Dichlorobenzene 100-41-4, Ethylbenzene, biological studies 100-42-5, biological studies 100-52-7, Benzaldehyde, biological studies 106-46-7, p-Dichlorobenzene 108-88-3, Toluene, biological studies 108-90-7, Chlorobenzene, biological studies 110-54-3, Hexane, biological studies 110-82-7, Cyclohexane, biological studies 110-93-0, 6-Methyl-5-heptene-2-one 111-27-3, Hexanol, biological studies 111-65-9, Octane, biological studies 111-84-2, Nonane 112-30-1, Decanol 112-95-8, Eicosane 117-81-7, Dioctyl phthalate 120-12-7, Anthracene, biological studies 124-48-1, Dibromochloromethane 128-37-0, 2,6-Ditert-butyl-4-methylphenol, biological studies 128-39-2, 2,6-Di-tert-butylphenol 131-11-3 140-29-4, Benzylcyanide 206-44-0, Fluoranthene 486-25-9, 9H-Fluoren-9-one 489-84-9 535-77-3, 1-Methyl-3-isopropylbenzene 541-73-1, m-Dichlorobenzene 544-63-8, Tetradecanoic acid, biological studies 593-45-3, Octadecane 629-78-7, Heptadecane 629-92-5, Nonadecane 629-94-7, Heneicosane 629-97-0, Docosane 646-31-1, Tetracosane 678-26-2, Perfluoropentane 719-22-2 763-93-9, 3-Hexen-2-one 814-78-8 934-34-9, Benzothiazolone 937-30-4 1138-52-9, 3,5-Di-tert-butylphenol 1331-43-7, Diethylcyclohexane 1569-50-2,

3-Pentene-2-ol 1689-78-7, 2-tert-Butylthiophene
2142-64-5 2219-82-1, 2-tert-Butyl-6-methylphenol
2245-30-9 2444-28-2, 2,6-Di-tert-butyl-1,4-benzenediol
4130-42-1, 2,6-Di-tert-butyl-4-ethylphenol 4281-40-7
4562-27-0, 4-1H)-Pyrimidinone 4675-87-0 4920-99-4,
1-Ethyl-3-isopropylbenzene 7507-89-3 11071-47-9,
Isooctene 12002-48-1, Trichlorobenzene 15356-74-8
18794-47-3 19377-95-8 24270-68-6, 1,1,2,3-
Tetrafluoropropane 25377-83-7, Octene 25378-22-7,
Dodecene 25495-91-4, Bromohexane 27138-19-8,
Ethylnaphthalene 27195-67-1, Dimethylcyclohexane
27400-77-7, Nonadecene 27400-79-9, Heneicosene
28351-09-9, Dimethylbenzaldehyde 28804-88-8,
Dimethylnaphthalene 29253-36-9, Isopropylnaphthalene
29512-02-5, 1-Methoxy-1-butene 29730-67-4, Docosene
34314-83-5, 4-Methyl-2,3-dihydrofuran 34464-40-9,
Isononane 34970-00-8, Iodobromochloromethane
**36207-23-5** 53951-50-1, Ethylbenzaldehyde
58501-92-1 61923-54-4, 2-Penten-2-ol 62808-70-2
103502-85-8 156000-89-4 156057-47-5
ROLE: BIOL (Biological study)
(lake water and potable water pollution by, Salmonella typhimurium toxicity in relation to, of East Lake, China)

IT **36207-23-5**
RL: BIOL (Biological study)
(lake water and potable water pollution by, Salmonella typhimurium toxicity in relation to, of East Lake, China)
RN 36207-23-5 HCAPLUS
CN Benzene, 1-ethyl-4-phenoxy- (9CI) (CA INDEX NAME)



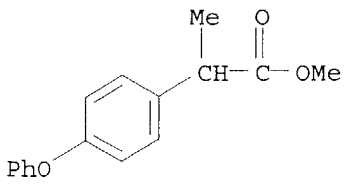

L24 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:206735 HCAPLUS
DOCUMENT NUMBER: 112:206735
ENTRY DATE: Entered STN: 26 May 1990
TITLE: Preparation of α-arylacetic acid derivatives by electrochemical oxidation
INVENTOR(S): Shono, Tatsuya; Matsumura, Isahiro
PATENT ASSIGNEE(S): Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
INT. PATENT CLASSIF.:
MAIN: C25B003-02
CLASSIFICATION: 72-9 (Electrochemistry)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 01222078 | A2 | 19890905 | JP 1988-50233 | 19880302 |

PRIORITY APPLN. INFO.: JP 1988-50233 19880302
OTHER SOURCE(S): MARPAT 112:206735
ABSTRACT:
A method for preparing ACRR1COOR2 (A = aryl, (condensed) heterocyclic group; R,R1 = H, alkyl, alicyclic group, unsatd. hydrocarbon group, aryl, aralkyl; R2 = H or lower alkyl) involves electrochem. oxidation of ACOCHRR1 in the presence of I (or its compound) and an acetalization agent.

SUPPL. TERM: arylacetic acid prepn electrochem oxidn ketone
INDEX TERM: Oxidation, electrochemical
(of ketones, in preparation of arylacetic acid derivs.)
INDEX TERM: 74-88-4, uses and miscellaneous 149-73-5 7553-56-2, Iodine, uses and miscellaneous
ROLE: PROC (Process)
(electrochem. oxidation of ketones in presence of, for preparation of arylacetic acid derivs.)
INDEX TERM: 75-30-9 75-47-8 591-50-4 3240-34-4 7553-56-2, Iodine, uses and miscellaneous 7681-11-0, Potassium iodide (KI), uses and miscellaneous 7758-05-6 10034-85-2, Hydriodic acid 12027-06-4, Ammonium iodide ((NH4)I) 16029-98-4
ROLE: PROC (Process)
(electrochem. oxidation of ketones in presence of, in preparation
of arylacetic acid derivs.)
INDEX TERM: 93-55-0 98-86-2, reactions 495-40-9 582-62-7 611-70-1 712-50-5 889-26-9 1515-95-3 2700-47-2 6315-96-4 10342-83-3 52129-98-3 59771-24-3 66952-37-2 80336-83-0 114012-26-9 120703-45-9 126916-32-3 126934-92-7 126934-93-8
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. oxidation of, in preparation of arylacetic acid derivs.)
INDEX TERM: 101-41-7P 2294-71-5P 17380-78-8P 30012-51-2P 31508-44-8P 50415-73-1P 52263-88-4P 57421-64-4P 57625-74-8P 59235-36-8P 61566-34-5P 66202-87-7P 72615-27-1P 73913-50-5P 83636-46-8P 103392-12-7P 120703-46-0P 125670-62-4P 126934-94-9P
**126934-95-0P** 126934-96-1P
ROLE: PREP (Preparation)
(preparation of, electrochem., by oxidation of ketone derivs.)

IT **126934-95-0P**
RL: PREP (Preparation)
(preparation of, electrochem., by oxidation of ketone derivs.)
RN 126934-95-0 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, methyl ester (9CI) (CA INDEX NAME)




L24 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:97962 HCAPLUS

DOCUMENT NUMBER: 112:97962
ENTRY DATE: Entered STN: 18 Mar 1990
TITLE: Reactivity of ring-substituted ethylbenzenes in reactions with cumylperoxy radicals
AUTHOR(S): Efimova, I. V.; Matvienko, A. G.; Opeida, I. A.
CORPORATE SOURCE: Inst. Fiz.-Org. Khim. Uglekhim., Donetsk, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1989), 25(4), 801-4
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
CLASSIFICATION: 22-13 (Physical Organic Chemistry)
ABSTRACT:

The reaction constant ρ+ [determined from σ+ substituent consts. in p-RC6H4Et (I)] for the H-abstraction reaction with PhCMe2OO• was more statistically reliable than ρ, reflecting the significant contribution of polar conjugation of R with the reaction center in transition-state stabilization. The absolute magnitude of ρ+, on the basis of current and literature evaluations, decreased in the series RC6H4Me > I > RC6H4CHMe2, reflecting the Hammond reactivity-selectivity principle.

SUPPL. TERM: abstraction hydrogen ethylbenzene deriv kinetics; substituent effect hydrogen abstraction ethylbenzene; reaction const hydrogen abstraction ethylbenzene; benzene alkyl reactivity selectivity

INDEX TERM: Reaction constant
(for abstraction reaction of hydrogen from ethylbenzene derivs. with cumylperoxy radical)

INDEX TERM: Kinetics of abstraction reaction
(of hydrogen, from ethylbenzene derivs. with cumylperoxy radical)

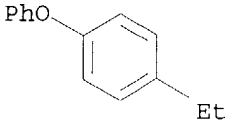
INDEX TERM: Substituent effect
(on abstraction reaction of hydrogen from ethylbenzene derivs. with cumylperoxy radical)

INDEX TERM: 141-93-5, m-Diethylbenzene 937-30-4, p-Acetylethylbenzene 1515-95-3, p-Methoxyethylbenzene 1585-07-5, p-Bromoethylbenzene **36207-23-5**
ROLE: PRP (Properties)
(abstraction reaction of hydrogen of, with cumylperoxy radical, kinetics of)

INDEX TERM: 7175-54-4, Cumylperoxy radical
ROLE: PRP (Properties)
(abstraction reaction of hydrogen of, with ethylbenzene derivs., kinetics of)

IT **36207-23-5**
RL: PRP (Properties)
(abstraction reaction of hydrogen of, with cumylperoxy radical, kinetics of)

RN 36207-23-5 HCAPLUS
CN Benzene, 1-ethyl-4-phenoxy- (9CI) (CA INDEX NAME)




L24 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

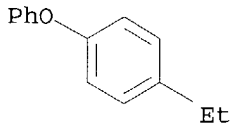
ACCESSION NUMBER: 1989:231286 HCAPLUS
DOCUMENT NUMBER: 110:231286
ENTRY DATE: Entered STN: 25 Jun 1989
TITLE: Process for the preparation of 2-(substituted phenyl)propionates as pharmaceuticals or their intermediates
INVENTOR(S): Takahashi, Eiji; Ozaki, Kazuo; Yamada, Takao
PATENT ASSIGNEE(S): Maruzen Petrochemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
INT. PATENT CLASSIF.:
MAIN: C07C059-64
SECONDARY: B01J031-22; C07C051-14; C07C067-38; C07C069-734
CLASSIFICATION: 25-18 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 63290842 | A2 | 19881128 | JP 1987-125684 | 19870525 |

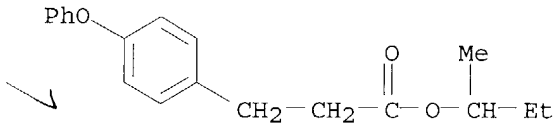
PRIORITY APPLN. INFO.: JP 1987-125684 19870525
OTHER SOURCE(S): MARPAT 110:231286
ABSTRACT:
Title compds. R1OC6H4CHMeCO2R2 (R1 = Ph, Me; R2 = H, alkyl), e.g. phenopropylene, are prepared by dehydrogenation of R1OC6H4Et in the presence of a dehydrogenation catalyst at 400-700° and carbonylation of the resultant R1OC6H4CH:CH2 in H2O or an alc. in the presence of a Pd catalyst. 3-PhOC6H4Et and H2O at 0.5 h-1 LHSV were charged in a reactor containing tin oxide at 580°, to give 3-PhOC6H4CH:CH2 in 61.3% yield, and the product was autoclaved with Me2CHOH, PdCl2(PPh3)2, PPh3, and 35% HCl at 110° and 120 kg/cm2 CO to give total 99.8% yield of 3-PhOC6H4CHMeCO2CHMe2 and 3-PhOC6H4(CH2)2CO2CHMe2 (93.2% and 6.4% selectivity, resp.).

SUPPL. TERM: phenylpropionate prepn pharmaceutical intermediate
INDEX TERM: Pharmaceuticals
(intermediates for, phenylpropionates as)
INDEX TERM: Alkoxycarbonylation
(of styrene derivs., phenylpropionates from)
INDEX TERM: 1515-95-3, 4-Methoxyphenylethane 10568-38-4, 3-Methoxyphenylethane **36207-23-5**, 4-Phenoxyphenylethane 78427-95-9, 3-Phenoxyphenylethane
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of, styrene derivative from)
INDEX TERM: 4973-29-9P, 4-Phenoxyphenylethylene 10568-38-4P, 3-Methoxyphenylethane 78427-95-9P, 3-Phenoxyphenylethane
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and alkoxy carbonylation of)
INDEX TERM: 637-69-4P, 4-Methoxyphenylethylene
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and alkoxycarbonylation of)
INDEX TERM: 113777-15-4P, Isopropyl 3-(3-methoxyphenyl)propionate 120824-59-1P, Isopropyl 3-(3-phenoxyphenyl)propionate **120824-60-4P**, sec-Butyl 3-(4-phenoxyphenyl)propionate 120824-61-5P, sec-Butyl

3-(4-methoxyphenyl)propionate
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
INDEX TERM: 120824-55-7P, Isopropyl 2-(3-phenoxyphenyl)propionate
120824-56-8P, sec-Butyl 2-(3-phenoxyphenyl)propionate
120824-57-9P, sec-Butyl 2-(4-methoxyphenyl)propionate
120824-58-0P, Isopropyl 2-(3-methoxyphenyl)propionate
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for drugs)
IT **36207-23-5**, 4-Phenoxyphenylethane
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of, styrene derivative from)
RN 36207-23-5 HCAPLUS
CN Benzene, 1-ethyl-4-phenoxy- (9CI) (CA INDEX NAME)




IT **120824-60-4P**, sec-Butyl 3-(4-phenoxyphenyl)propionate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 120824-60-4 HCAPLUS
CN Benzenepropanoic acid, 4-phenoxy-, 1-methylpropyl ester (9CI) (CA INDEX NAME)




L24 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:594298 HCAPLUS
DOCUMENT NUMBER: 111:194298
ENTRY DATE: Entered STN: 25 Nov 1989
TITLE: Preparation of substituted phenylpropionaldehydes as drug intermediates
INVENTOR(S): Takahashi, Eiji; Ozaki, Kazuo; Yamada, Takao
PATENT ASSIGNEE(S): Maruzen Petrochemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
INT. PATENT CLASSIF.:
MAIN: C07C047-277
SECONDARY: C07C045-50
CLASSIFICATION: 25-15 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 63290837 | A2 | 19881128 | JP 1987-125683 | 19870525 |

PRIORITY APPLN. INFO.: JP 1987-125683 19870525
OTHER SOURCE(S): MARPAT 111:194298
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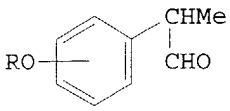



I

ABSTRACT:
The title compds. I (R = Ph, Me), useful as drug intermediates, were prepared Dehydrogenation of 3-phenoxyphenylethane, followed by hydroformylation of the product in the presence of (Ph3P)3Rh(CO)H under H and CO, gave 2-(3-phenoxyphenyl)propionaldehyde with 91% selectivity and 99.1% conversion of 3-phenoxyphenylethylene.

SUPPL. TERM: phenylpropionaldehyde prepn drug intermediate; fenoprofen intermediate phenylpropionaldehyde prepn; hydroformylation phenylethylene

INDEX TERM: Hydroformylation
(of phenylethylenes)

INDEX TERM: 17185-29-4, Hydridocarbonyltris(triphenylphosphine)rhodium
ROLE: CAT (Catalyst use); USES (Uses)
(catalyst, for hydroformylation of phenylethylenes)

INDEX TERM: 1515-95-3 10568-38-4, 3-Methoxyphenylethane
**36207-23-5**, 4-Phenoxyphenylethane 78427-95-9, 3-Phenoxyphenylethane
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of)

INDEX TERM: 20401-88-1P 40138-66-7P 54954-44-8P 122801-83-6P
ROLE: SPN (Synthetic preparation); FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in preparation of drug intermediate)

INDEX TERM: 630-08-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydroformylation, of phenylethylenes)

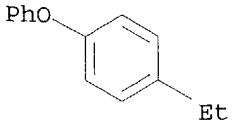
INDEX TERM: 29679-58-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(intermediates for, preparation of phenylpropionaldehydes as)

INDEX TERM: 626-20-0P 637-69-4P, 4-Methoxyphenylethylene 4973-29-9P, 4-Phenoxyphenylethylene 63444-54-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydroformylation of)

INDEX TERM: 5405-83-4P 59452-86-7P 59908-87-1P 80793-26-6P 123490-60-8P 123490-61-9P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as drug intermediate)

IT **36207-23-5**, 4-Phenoxyphenylethane
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of)

RN 36207-23-5 HCAPLUS
CN Benzene, 1-ethyl-4-phenoxy- (9CI) (CA INDEX NAME)




L24 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1987:17058 HCAPLUS
DOCUMENT NUMBER: 106:17058
ENTRY DATE: Entered STN: 24 Jan 1987
TITLE: Biotechnological preparation of optically active α-arylalkanoic acids
INVENTOR(S): Cesti, Pietro; Piccardi, Paolo
PATENT ASSIGNEE(S): Montedison S.p.A., Italy
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C12P007-40
SECONDARY: C12P017-14; C12P041-00
CLASSIFICATION: 16-5 (Fermentation and Bioindustrial Chemistry)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 195717 | A2 | 19860924 | EP 1986-400558 | 19860317 |
| EP 195717 | A3 | 19890222 | | |
| EP 195717 | B1 | 19911009 | | |
| R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| AT 68210 | E | 19911015 | AT 1986-400558 | 19860317 |
| US 4762793 | A | 19880809 | US 1986-840856 | 19860318 |
| JP 61239899 | A2 | 19861025 | JP 1986-61067 | 19860320 |
| HU 41069 | A2 | 19870330 | HU 1986-1202 | 19860321 |
| HU 197943 | B | 19890628 | | |
| ES 553215 | A1 | 19870516 | ES 1986-553215 | 19860321 |

PRIORITY APPLN. INFO.: IT 1985-20036 19850322
EP 1986-400558 19860317
OTHER SOURCE(S): CASREACT 106:17058
ABSTRACT:
S(T)α-arylalkanoic acids are efficiently obtained from racemic esters by using an esterase produced by a microorganism that is capable of asym. hydrolyzing the racemic ester, i.e. capable of selectively hydrolyzing the S(t) enantiomer, in order to yield an acid substantially in the S(t) form, while leaving the ester in the R(-) form unaltered. Thus, lipase from Candida cylindracea was reacted with the ethoxycarbomethyl ester of (R,S) 2-(4-isobutylphenyl)propionic acid for 24 h at 28° to yield the S(+) acid at a conversion rate of 45% equal to 90% hydrolysis of the S(+) form.

SUPPL. TERM: arylalkanoate asym hydrolysis esterase microorganism; carboxylate asym hydrolysis esterase
INDEX TERM: Asymmetric synthesis and induction
(arylalkanoic acid manufacture by, with lipase of Candida cylindracea)
INDEX TERM: Microorganism
(esterase of, arylalkanoic acid manufacture by asym.

hydrolysis with)

INDEX TERM: Candida rugosa
(lipase of, arylalkanoic acid manufacture by asym. hydrolysis with)

INDEX TERM: Carboxylic acids, preparation
ROLE: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(aryl, manufacture of, by asym. hydrolysis with esterase of microorganisms)

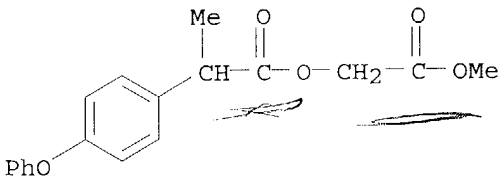
INDEX TERM: 9013-79-0
ROLE: BIOL (Biological study)
(arylalkanoic acid manufacture by asym. hydrolysis with, of microorganism)

INDEX TERM: 9001-62-1, Lipase
ROLE: BIOL (Biological study)
(arylalkanoic acid manufacture by asym. hydrolysis with, of Candida cylindracea)

INDEX TERM: 64622-29-3 105052-65-1 105888-62-8 105888-63-9
105888-65-1 105888-66-2 **105888-67-3**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(asym. hydrolysis of, to arylalkanoic acid, with lipase of microorganisms)

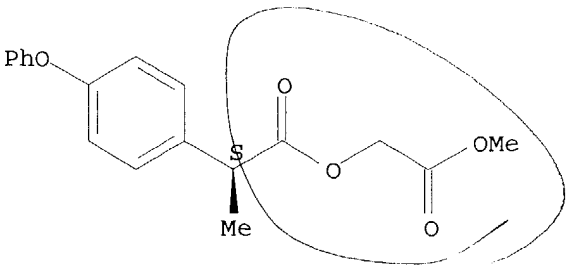
INDEX TERM: 23981-80-8P 51146-56-6P 105888-60-6P 105888-64-0P
105929-99-5P 105930-00-5P 105930-01-6P
**105930-02-7P** 105930-03-8P 105930-04-9P
ROLE: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manufacture of, by asym. hydrolysis with esterase of microorganisms)

IT **105888-67-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. hydrolysis of, to arylalkanoic acid, with lipase of microorganisms)
RN 105888-67-3 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, 2-methoxy-2-oxoethyl ester (9CI) (CA INDEX NAME)




IT **105930-02-7P**
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manufacture of, by asym. hydrolysis with esterase of microorganisms)
RN 105930-02-7 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, 2-methoxy-2-oxoethyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L24 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1984:551531 HCAPLUS
DOCUMENT NUMBER: 101:151531
ENTRY DATE: Entered STN: 27 Oct 1984
TITLE: Thallium in organic synthesis. 62. A convenient synthesis of α-arylsuccinic acids
AUTHOR(S): Taylor, Edward C.; Conley, Richard A.; Katz, Alan H.; McKillop, Alexander
CORPORATE SOURCE: Dep. Chem., Princeton Univ., Princeton, NJ, 08544, USA
SOURCE: Journal of Organic Chemistry (1984), 49(20), 3840-1
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 25-18 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
OTHER SOURCE(S): CASREACT 101:151531
ABSTRACT:
α-Arylsuccinic acids are readily prepared by oxidative rearrangement of β-aroylpropionic acids (from arenes and succinic anhydride) with Tl(NO3)3--HC(OMe)3. Application of the same reaction to β-benzoylbutyric acid, β-benzoylvaleric acid, 1,2-dibenzoylethane and 1,4-dibenzoylbutane gives di-Me α-phenylglutarate, di-Me α-phenyladipate, di-Me α,α'-diphenylsuccinate, and di-Me α,α'-diphenyladipate, resp. Oxidative rearrangement of unsym. 1,2-diaroylethanes gives unsym. di-Me α,α'-diarylsuccinates.

SUPPL. TERM: benzoylalkanoic acid oxidative rearrangement; benzoylalkane di oxidative rearrangement; alkanoic acid benzoyl oxidative rearrangement; alkane dibenzoyl oxidative rearrangement; oxidative rearrangement dibenzoylalkane benzoylalkanoic acid; thallium nitrate oxidative rearrangement
INDEX TERM: Oxidation
(rearrangement and, of benzoylalkanoic acids and dibenzoylalkanes with thallium trinitrate and tri-Me orthoformate, diesters by)
INDEX TERM: Rearrangement
(oxidative, of benzoylalkanoic acids and dibenzoylalkanes with thallium trinitrate and tri-Me orthoformate, diesters by)
INDEX TERM: 5447-74-5 25333-24-8 39560-31-1 57498-54-1 67173-95-9 91266-23-8
ROLE: PROC (Process)
(conversion of, to enol ether)
INDEX TERM: 366-77-8 495-71-6 2051-95-8 3153-44-4 3375-38-0 4144-62-1 4619-20-9 36330-86-6 51908-41-9 89229-73-2 91266-20-5 91266-21-6 91266-22-7 91266-24-9 91266-25-0 91266-26-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(oxidative rearrangement of, with thallium trinitrate and

tri-Me orthoformate)

INDEX TERM: 1496-23-7P 10436-86-9P 15463-92-0P 22248-26-6P
36265-44-8P 81631-72-3P **91266-19-2P**
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidative rearrangement of benzoylalkanoic acid with thallium trinitrate and tri-Me orthoformate)

INDEX TERM: 7300-04-1P 19020-59-8P 91280-66-9P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidative rearrangement of dibenzoylalkane with thallium nitrate and tri-Me orthoformate)

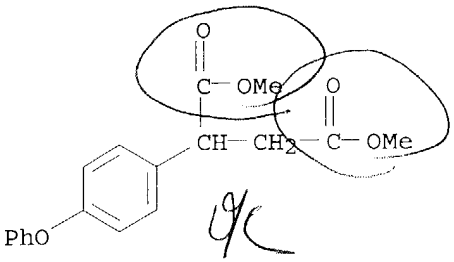
INDEX TERM: 149-73-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(thallium trinitrate and, oxidative rearrangement of benzoylalkanoic acids and dibenzoylalkanes by)

INDEX TERM: 13746-98-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(tri-Me orthoformate and, oxidative rearrangement of benzoylalkanoic acids and dibenzoylalkanes by)

IT **91266-19-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidative rearrangement of benzoylalkanoic acid with thallium trinitrate and tri-Me orthoformate)

RN 91266-19-2 HCAPLUS

CN Butanedioic acid, (4-phenoxyphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)




Synthetic Prep

L24 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1977:467848 HCAPLUS
DOCUMENT NUMBER: 87:67848
ENTRY DATE: Entered STN: 12 May 1984
TITLE: α-Aryl-substituted propionic acids
INVENTOR(S): Takeda, Makoto; Uchide, Masayuka; Iwane, Hiroshi
PATENT ASSIGNEE(S): Mitsubishi Petrochemical Co., Ltd., Japan
SOURCE: Ger. Offen., 43 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
INT. PATENT CLASSIF.: C07C069-76
CLASSIFICATION: 23-16 (Aliphatic Compounds)
Section cross-reference(s): 25, 26
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| DE 2646792 | A1 | 19770428 | DE 1976-2646792 | 19761016 |
| DE 2646792 | C2 | 19850509 | | |
| JP 52051338 | A2 | 19770425 | JP 1975-127787 | 19751023 |

| | | | | | |
|---|---|---|---|---|---|
| JP 59035899 | B4 | 19840831 | | | |
| JP 60045171 | B4 | 19851008 | JP 1976-91523 | 19760731 | |
| GB 1565235 | A | 19800416 | GB 1976-43221 | 19761018 | |
| FR 2328689 | A1 | 19770520 | FR 1976-32143 | 19761025 | |
| FR 2328689 | B1 | 19830121 | | | |
| US 4329507 | A | 19820511 | US 1980-111978 | 19800114 | |

PRIORITY APPLN. INFO.:

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|---|---|
| JP 1975-127787 | 19751023 |
| JP 1976-91523 | 19760731 |
| US 1976-734592 | 19761021 |
| US 1978-909643 | 19780525 |

OTHER SOURCE(S): CASREACT 87:67848

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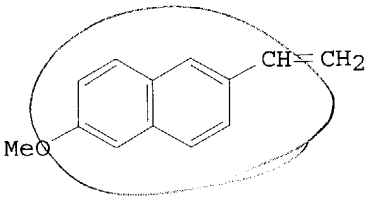


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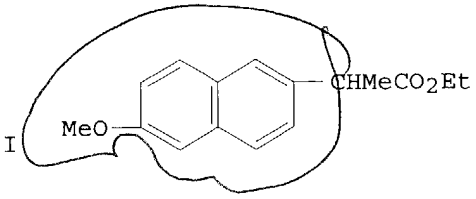



II

ABSTRACT:
Alkoxycarbonylation by alcs. and CO and carboxylation by H2O and CO of vinylarenes were catalyzed by Pd complexes. Thus, I in EtOH containing (Ph3P)2PdCl2, BF3·Et2O, and Ph2NNO was autoclaved with CO to give 69% II.

SUPPL. TERM: alkoxycarbonylation vinylarene catalyst; carboxylation vinylarene catalyst; propionic acid aryl

INDEX TERM: Alkoxycarbonylation catalysts
(palladium complexes, for vinylarenes)

INDEX TERM: 5338-96-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of)

INDEX TERM: 391-08-2 716-89-2 3139-85-3 4973-29-9 10473-10-6
30215-52-2 54314-33-9 63444-51-9 63444-52-0
63444-53-1 63444-54-2 63444-55-3 63444-56-4
63444-57-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(alkoxycarbonylation of)

INDEX TERM: 109-63-7 603-35-0, uses and miscellaneous 7647-10-1
13965-03-2 14977-08-3
ROLE: CAT (Catalyst use); USES (Uses)
(catalyst, for alkoxycarbonylation of vinylarenes)

INDEX TERM: 62049-65-4
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(dehydrochlorination of)

INDEX TERM: 5002-42-6 42771-85-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydride reduction of)

INDEX TERM: 40150-92-3P 56430-69-4P 63444-59-7P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydration of)

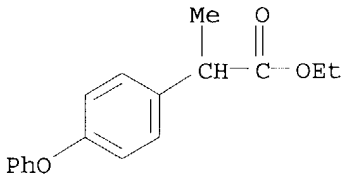
INDEX TERM: 56430-44-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydrohalogenation of)

INDEX TERM: 37961-57-2P 41283-72-1P **61001-75-0P**
61566-34-5P 63444-58-6P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)

INDEX TERM: 3585-53-3P 5005-84-5P 6908-47-0P 15687-27-1P
17692-38-5P 22410-97-5P 23981-80-8P 29679-58-1P
36141-62-5P 36950-96-6P 41604-03-9P 51106-57-1P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

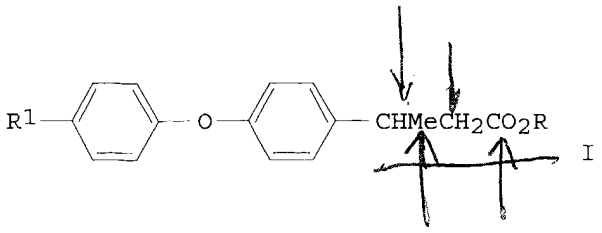
IT **61001-75-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
RN 61001-75-0 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, ethyl ester (9CI) (CA INDEX NAME)




L24 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:592403 HCAPLUS
DOCUMENT NUMBER: 85:192403
ENTRY DATE: Entered STN: 12 May 1984
TITLE: Phenoxyphenylbutyric acid derivatives
INVENTOR(S): Gante, Joachim; Kurmeier, Hans A.; Schacht, Erich; Mehrhof, Werner; Wild, Albrecht
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 51 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
INT. PATENT CLASSIF.: C07C069-76
CLASSIFICATION: 25-18 (Noncondensed Aromatic Compounds)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| DE 2509891 | A1 | 19760923 | DE 1975-2509891 | 19750307 |
| SE 7602744 | A | 19760908 | SE 1976-2744 | 19760227 |
| AU 7611555 | A1 | 19770908 | AU 1976-11555 | 19760302 |
| AU 497104 | B2 | 19781130 | | |
| BE 839211 | A2 | 19760906 | BE 1976-7000789 | 19760304 |
| FR 2302731 | A1 | 19761001 | FR 1976-6130 | 19760304 |
| DK 7600979 | A | 19760908 | DK 1976-979 | 19760305 |
| NL 7602341 | A | 19760909 | NL 1976-2341 | 19760305 |
| ZA 7601340 | A | 19770223 | ZA 1976-1340 | 19760305 |
| ES 445793 | A1 | 19770901 | ES 1976-445793 | 19760305 |
| GB 1494462 | A | 19771207 | GB 1976-8980 | 19760305 |
| AT 7601624 | A | 19790515 | AT 1976-1624 | 19760305 |
| JP 51125348 | A2 | 19761101 | JP 1976-25990 | 19760308 |

PRIORITY APPLN. INFO.: DE 1975-2509891 19750307
GRAPHIC IMAGE:




I

ABSTRACT:
The title compds. (I; R = H, Me, Et, Pr, Bu, tert-Bu, Et2NCH2CH2, Me2NCH2CH2; R1 = H, Br, Cl, F), useful as analgesics and antipyretics, are prepared by a variety of standard procedures. Thus, reduction and hydrolysis of 4-(4-ClC6H4O)C6H4CMe(OH)CH2CO2Et with 67% aqueous HI in AcOH 1 hr at 150° gives I (R = H, R1 = Cl).

SUPPL. TERM: phenoxyphenylbutyrate analgesic antipyretic; butyrate halophenoxyphenyl analgesic antipyretic

INDEX TERM: Analgesics
Antipyretics
([(halophenoxy)phenyl]butyrate acid derivs.)

INDEX TERM: 55102-99-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction with K 3-iodobutyrate)

INDEX TERM: 61001-87-4 61001-88-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction with carbon dioxide)

INDEX TERM: 78-09-1 124-38-9, reactions 541-41-3 61001-86-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction with halophenyl ethers)

INDEX TERM: **61001-75-0**
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(chlorination of)

INDEX TERM: 61001-98-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(deamination and fluoroamination of)

INDEX TERM: 61001-97-6
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(deamination of)

INDEX TERM: 61001-90-9 61001-91-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(decarboxylation of)

INDEX TERM: 60467-98-3 61001-74-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation and hydrolysis of)

INDEX TERM: 61001-76-1 61024-36-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)

INDEX TERM: 61001-89-6
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis and decarboxylation of)

INDEX TERM: 58727-42-7 58727-45-0
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis and reduction of)

INDEX TERM: 61001-78-3 61001-79-4 61001-80-7 61001-81-8
61001-82-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of)

INDEX TERM: 58727-63-2 61001-94-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of)

INDEX TERM: 61001-57-8P 61001-61-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of)

INDEX TERM: 61001-58-9P 61001-64-7P 61001-65-8P 61001-66-9P
61001-67-0P 61001-71-6P 61001-72-7P 61001-73-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)

INDEX TERM: 61001-59-0P 61001-60-3P 61001-63-6P 61001-68-1P
61001-70-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

INDEX TERM: 1099-45-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 4-(1-bromoethyl)-4'-fluorodiphenyl ether)

INDEX TERM: 61024-35-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with carbon monoxide)

INDEX TERM: 1951-12-8 7425-49-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with chlorophenyl phenyl ether)

INDEX TERM: 61001-95-4
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diethylamine)

INDEX TERM: 352-34-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with disodium 3-(4-hydroxyphenyl)butyrate)

INDEX TERM: 61001-77-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with ethyl [triphenylphosphoranylidene)acetate)

INDEX TERM: 61001-83-0 61001-84-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with ethyl bromobutyrate)

INDEX TERM: 61024-34-8
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with fluoroiodobenzene)

INDEX TERM: 61001-93-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with formic acid and with nickel carbonyl)

INDEX TERM: 7005-72-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with halobutyrates)

INDEX TERM: 13463-39-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with halophenyl ethers)

INDEX TERM: 61001-92-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with nickel carbonyl)

INDEX TERM: 100-35-6 107-99-3
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with sodium [(chlorophenoxy)phenyl]butyrate)

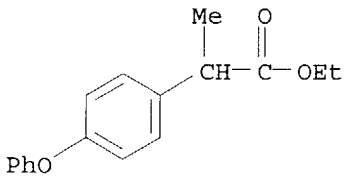
INDEX TERM: 61001-96-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with sodium fluorophenolate)

INDEX TERM: 61001-85-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with tert-butyl alc. and propanol)

INDEX TERM: 371-35-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)

(reaction with sodium (iodophenyl)butyrate)
INDEX TERM: 64-18-6, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(with 4-chlorophenyl 4-(2-propenyl)phenyl ether)
INDEX TERM: 630-08-0, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(with [(chlorophenoxy)phenyl]propanol)
INDEX TERM: 109-89-7, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(with chloroethyl [(chlorophenoxy)phenyl]butyrate)

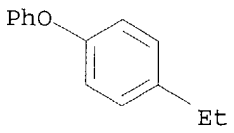
IT **61001-75-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(chlorination of)
RN 61001-75-0 HCAPLUS
CN Benzeneacetic acid, α-methyl-4-phenoxy-, ethyl ester (9CI) (CA INDEX NAME)




L24 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1972:144751 HCAPLUS
DOCUMENT NUMBER: 76:144751
ENTRY DATE: Entered STN: 12 May 1984
TITLE: Effect of introducing ethyl radical to benzene derivatives on their odorant properties
AUTHOR(S): Wizner, Iwonna
CORPORATE SOURCE: Inst. Chem. Przem., Warsaw, Pol.
SOURCE: Tluszcze, Srodki Piorace, Kosmetyki (1971), 15(5), 20-30
CODEN: TSPKBZ; ISSN: 0372-1795
DOCUMENT TYPE: Journal
LANGUAGE: Polish
CLASSIFICATION: 62 (Essential Oils and Cosmetics)
ABSTRACT:
The effects of Et groups on odorant properties was studied in large number of esters, alcs., aldehydes, and ketones, as well as in p-ethyldiphenylmethane (I) and p-ethyldiphenyl ether. The most interesting scent was found in p-ethylacetophenone, I, Me p-ethylbenzoate, and p-ethylphenyl-β-butyl alc. Many of the compds. synthesized are not found in literature.

SUPPL. TERM: ethyl groups odorant; ester odorant ethyl effect; alc odorant ethyl effect; aldehyde odorant ethyl effect; ketone odorant ethyl effect
INDEX TERM: Molecular structure-property relationship
(benzene ethyl derivs., odors)
INDEX TERM: Alcohols, properties
Aldehydes, properties
Esters, properties
Ketones, properties
ROLE: PRP (Properties)
(odors of, ethyl radicals in relation to)
INDEX TERM: Odor and Odorous substances

(of benzene ethyl derivs.)
INDEX TERM: 768-59-2 4748-78-1 14062-20-5 22545-13-7 36207-03-1
36207-04-2 36207-05-3 36207-06-4 36207-07-5
36207-08-6 36207-09-7 36207-10-0 36207-13-3
36207-14-4 36207-15-5 36207-16-6 36207-18-8
36207-19-9 36305-78-9
ROLE: PRP (Properties)
(odor of)
INDEX TERM: 620-85-9 937-30-4 7364-20-7 **36207-23-5**
ROLE: PRP (Properties)
(odors of)
INDEX TERM: 36207-25-7P
ROLE: PREP (Preparation)
(preparation of)
IT **36207-23-5**
RL: PRP (Properties)
(odors of)
RN 36207-23-5 HCAPLUS
CN Benzene, 1-ethyl-4-phenoxy- (9CI) (CA INDEX NAME)

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L24 ANSWER 14 OF 15 USPATFULL on STN
ACCESSION NUMBER: 88:50260 USPATFULL
TITLE: Process for the biotechnological preparation of optically active alpha-arylalkanoic acids
INVENTOR(S): Cesti, Pietro, Novara, Italy
Piccardi, Paolo, Milan, Italy
PATENT ASSIGNEE(S): Montedison S.p.A., Milan, Italy (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---|---|---|---|
| PATENT INFORMATION: | US 4762793 | | 19880809 |
| APPLICATION INFO.: | US 1986-840856 | | 19860318 (6) |

| | NUMBER | DATE |
|---|---|---|
| PRIORITY INFORMATION: | IT 1985-20036 | 19850322 |

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Rosen, Sam
LEGAL REPRESENTATIVE: Morgan & Finnegan
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
LINE COUNT: 301

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is described the preparation of S(+) alpha-aryl-alkanoic acids by means of the reaction of a racemic ester(R,S) of the formula: ##STR1## wherein: R is a group selected from the group consisting of --C.tbd.CH, a --CH.dbd.CH.sub.2, --CN; --COCH.sub.3, --COO alkyl C.sub.1 C.sub.4 and --CH.sub.2 --O alkyl C.sub.1 -C4 group, Ar is a group selected from the group consisting of an aryl group and an aryl substituted or condensed with other groups, in particular a group selected from the group consisting of groups of the formula: ##STR2## wherein: R' is selected from the group consisting of C.sub.1 -C.sub.8 linear or branch of chain alkyl, C.sub.1 -C.sub.4 alkenyl, alkoxy, phenyl, phenoxy, tenoyl and heterocyclic;

R" is selected from the group consisting of hydrogen or halogen;

R"' is a C.sub.1 -C.sub.4 alkyl,

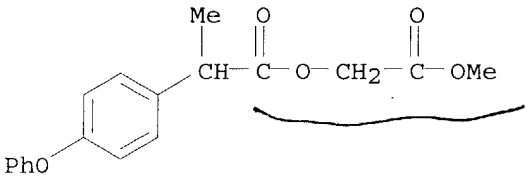
with an esterase, produced by microorganisms capable of selectively hydrolizing the S(+) form of said racemic ester and by successively separating the S(+) acid from the unreacted ester.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **105888-67-3**
(asym. hydrolysis of, to arylalkanoic acid, with lipase of microorganisms)

RN 105888-67-3 USPATFULL

CN Benzeneacetic acid, α-methyl-4-phenoxy-, 2-methoxy-2-oxoethyl ester (9CI) (CA INDEX NAME)

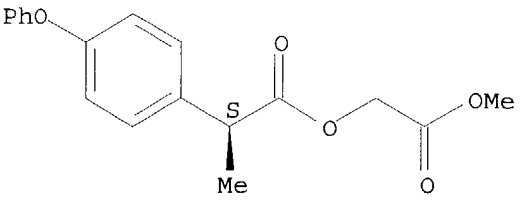



IT **105930-02-7P**
(manufacture of, by asym. hydrolysis with esterase of microorganisms)

RN 105930-02-7 USPATFULL

CN Benzeneacetic acid, α-methyl-4-phenoxy-, 2-methoxy-2-oxoethyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L24 ANSWER 15 OF 15 USPATFULL on STN

ACCESSION NUMBER: 82:22897 USPATFULL

TITLE: Substituted aryl ethylenes

INVENTOR(S): Takeda, Makoto, Amimachi, Japan

Uchide, Masayuki, Amimachi, Japan
Iwane, Hiroshi, Amimachi, Japan
PATENT ASSIGNEE(S): Mitsubishi Petrochemical Co., Ltd., Tokyo, Japan (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---|---|---|---|
| PATENT INFORMATION: | US 4329507 | | 19820511 |
| APPLICATION INFO.: | US 1980-111978 | | 19800114 (6) |

RELATED APPLN. INFO.: Division of Ser. No. US 1978-909643, filed on 25 May 1978, now abandoned which is a division of Ser. No. US 1976-734592, filed on 21 Oct 1976, now abandoned

| | NUMBER | DATE |
|---|---|---|
| PRIORITY INFORMATION: | JP 1975-127787 | 19751023 |
| | JP 1976-91523 | 19760731 |

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Chan, Nicky
ASSISTANT EXAMINER: Reamer, J. H.
LEGAL REPRESENTATIVE: Burns, Robert E., Lobato, Emmanuel J., Adams, Bruce L.
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1,2,3
LINE COUNT: 317

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

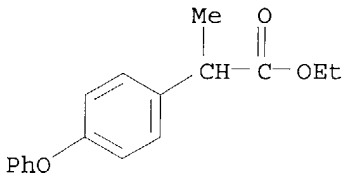
AB New substituted aryl ethylenes are disclosed which are produced by dehydration of the corresponding α- or β-(substituted aryl)ethyl alcohols or by dehydrohalogenation of the corresponding α- or β-(substituted aryl)ethyl halides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **61001-75-0P**
(preparation and hydrolysis of)

RN 61001-75-0 USPATFULL

CN Benzeneacetic acid, α-methyl-4-phenoxy-, ethyl ester (9CI) (CA INDEX NAME)

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